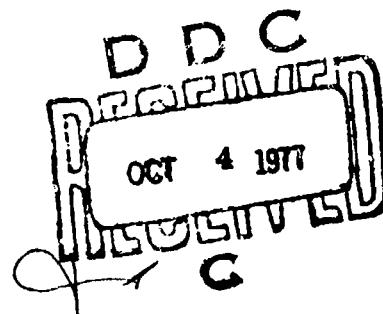


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**DEPARTMENT OF DEFENSE  
IN-HOUSE RDT&E ACTIVITIES**

ADA 045005



**30 OCTOBER 1976**

**Management Analysis Report . . .**

Department of the Army

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Department of the Air Force

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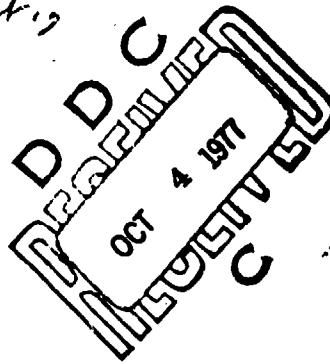
DEPARTMENT OF DEFENSE IN-HOUSE RDT&E ACTIVITIES.

HAROLD F. DAVIDSON

SCIENCE APPLICATIONS, INC.  
1651 Old Meadow Road  
McLean, Virginia 22101

11 30 Oct 1976

12 1976



Prepared For:  
US ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND  
5001 Eisenhower Avenue  
Alexandria, Virginia 22333

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FOREWORD

THIS REPORT WAS PREPARED BY SCIENCE APPLICATIONS, INC., MCLEAN, VIRGINIA, FOR THE US ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND AT THE DIRECTION OF THE CHIEF, RESEARCH, DEVELOPMENT AND ACQUISITION. THIS EDITION IS THE ELEVENTH OF A SERIES THAT WAS INITIATED IN 1966.

EACH IN-HOUSE RDT&E ACTIVITY OF THE DEPARTMENT OF DEFENSE IS DESCRIBED ON ONE PAGE IN THIS COMPILATION. THE DATA FOR 1976 ARE SUMMARIZED IN TABLES PRECEDING THE MAIN TEXT AND CHARTS AND TABLES ARE PROVIDED FOR EACH SERVICE SHOWING ORGANIZATIONAL RELATIONSHIPS AND COMMAND CHAINS.

ALL CURRENT DOD RDT&E ACTIVITIES WHICH MEET THE REPORT REQUIREMENT OF HAVING AT LEAST 25 PER CENT OF THEIR BUDGET IN RDT&E FUNDS ARE LISTED IN THE CONTENTS ALPHABETICALLY WITHIN EACH DEPARTMENT. SOME THE FACILITIES WHICH DO NOT MEET THE REQUIREMENT PREVIOUSLY NOTED ARE ALSO LISTED BY SPECIAL REQUEST. ORGANIZATIONAL CHANGES DURING FY 1976 APPEAR IN APPENDIX I.

APPENDIX II CONTAINS THE DEFINITIONS GIVEN IN DOD INSTRUCTION 7700.9 (DEPARTMENT OF THE ARMY LETTER, "RESEARCH AND DEVELOPMENT RESOURCE DATA FOR IN-HOUSE RDT&E ACTIVITIES," DATED 6 AUGUST 1973) AND EMPLOYED AS THE DIRECTIVE FOR THESE DATA. THIS LETTER WILL BE REPLACED BY A REGULATION IN FY 1977 WHICH WILL BE USED BY ALL SERVICES AS THE BASIS FOR DATA SUBMISSION FOR THIS REPORT. APPENDIX III LISTS SELECTED ABBREVIATIONS AND ACRONYMS. APPENDIX IV LISTS SELECTED KEY WORDS WITH PAGE REFERENCES.

EVERY EFFORT HAS BEEN MADE TO PROVIDE ACCURATE INFORMATION, PARTICULARLY FISCAL DATA. ALL NUMBERS AND STATEMENTS HAVE BEEN THOROUGHLY EXAMINED AND WHERE NECESSARY, REVIEWED WITH THE SUBMITTING AGENCY TO INSURE CORRECTNESS AND CLARITY.

SINCERE APPRECIATION IS EXTENDED TO MR. WILLIAM A. STRAIN AND HIS ASSOCIATES OF THE US ARMY MANAGEMENT SYSTEMS SUPPORT AGENCY FOR THEIR EFFORTS AND ASSISTANCE IN PROVIDING A COMPUTER PRINTOUT FROM WHICH THIS REPORT IS PRINTED.

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## CHARTS

SUMMARY

DEPARTMENT OF DEFENSE IN-HOUSE RDT&E FACILITIES

PROGRAM DATA FOR FY 1976

|                             | (MILLIONS) |
|-----------------------------|------------|
| TOTAL ANNUAL PROGRAM        | 5454.921   |
| TOTAL INHOUSE PROGRAM       | 2854.142   |
| TOTAL RDT&E PROGRAM         | 3229.652   |
| TOTAL INHOUSE RDT&E         | 1770.838   |
| TOTAL ANNUAL OPERATING COST | 891.354    |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED STRENGTH | TOTAL PHD | TOTAL PROFESSIONALS |
|-----------|---------------------|-----------|---------------------|
| MILITARY  | 23867               | 900       | 6711                |
| CIVILIAN  | 76574               | 3436      | 29671               |
| TOTAL     | 100441              | 4336      | 36382               |

PHYSICAL FACILITIES (END OF FY 1976)

|       |          |
|-------|----------|
| ACRES | 92773.38 |
|-------|----------|

SPACE (THOUSANDS OF SQ FT)

|                |           |
|----------------|-----------|
| LABORATORY     | 26659.371 |
| ADMINISTRATIVE | 10434.500 |
| OTHER          | 60800.432 |
| TOTAL          | 97894.303 |

COST (MILLIONS)

|               |          |
|---------------|----------|
| REAL PROPERTY | 3910.619 |
| EQUIPMENT     | 3276.617 |
| TOTAL         | 7187.236 |

TABLE 1. ARMY R&amp;D ACTIVITIES, PROGRAM AND PERSONNEL DATA, FY 1976

| INSTALLATION                                  | FUNDING DATA (MILLIONS \$) |          |                 | PERSONNEL DATA |            |                     |
|---|----------------------------|----------|-----------------|----------------|------------|---------------------|
|   | TOTAL                      | INHOUSE  | ROUTE           | TOTAL          | PHD        | PROF                |
|   | MIL                        | CIV      | MIL             | CIV            | MIL        | CIV                 |
| AEOMEDICAL RESEARCH LABORATORY                | 3.365                      | 3.365    | 2.303           | 58             | 57         | 17                  |
| AIR DEFENSE BARD                              | 4.792                      | 4.792    | 2.477           | 120            | 87         | 0                   |
| AIR MOBILITY R&D LABORATORY                   | 48.444                     | 13.950   | 47.542          | 27             | 586        | 23                  |
| AIRBORNE COMMUNICATIONS & ELECTRONICS BOARD   | FT. BRAGG, N.C.            | 4.049    | 1.708           | 1.708          | 52         | 17                  |
| ARMED AND ENGINEER BOARD                      | FT. GREENLY, AK.           | 6.081    | 3.177           | 3.177          | 269        | 11                  |
| ATMOSPHERIC SCIENCES LABORATORY               | FT. KNOX, KENTUCKY         | 8.226    | 8.226           | 1.967          | 181        | 9                   |
| AVIATION ENGINEERING FLIGHT ACTIVITY          | WHITE SANDS MR., N.M.      | 13.174   | 10.688          | 13.073         | 85         | 11                  |
| AVIATION TEST BOARD                           | EDWARDS AFB CA             | 4.030    | 4.030           | 10.587         | 440        | 11                  |
| AVIONICS LABORATORY                           | FT. DUCKER, AL.            | 6.141    | 5.931           | 6.141          | 104        | 104                 |
| BALLISTICS RESEARCH LABORATORIES              | FT. MONMOUTH, N.J.         | 16.086   | 11.382          | 10.605         | 5.931      | 34                  |
| BENET WEAPONS LABORATORY                      | ABERDEEN PROV GR., MD.     | 41.410   | 30.405          | 38.033         | 7.195      | 12                  |
| CCID REGIONS R&E LABORATORY                   | MATERYLIT, N.Y.            | 16.885   | 13.922          | 10.093         | 27.545     | 27                  |
| COMBAT SURVEILLANCE & TST ACQUISITION LABS    | HANOVER, NH                | 9.106    | 6.503           | 6.090          | 7.130      | 5                   |
| COMMUNICATIONS ADP LABORATORY                 | FT. MONMOUTH, N.J.         | 32.746   | 14.839          | 29.077         | 12.303     | 13                  |
| CONSTRUCTION ENGINEERING, RESEARCH LABORATORY | FT. MONMOUTH, N.J.         | 23.360   | 19.092          | 18.185         | 14.977     | 12                  |
| DUGWAY PROVING GROUND                         | URBANA, IL.                | 14.997   | 12.132          | 13.107         | 11.183     | 3                   |
| EDGEWOOD ARSENAL, MD.                         | HUGWAY UT                  | 19.557   | 16.844          | 11.718         | 9.849      | 3                   |
| EDGEMOD ARSENAL LABORATORIES                  | EDGEMOD ARSENAL, MD.       | 65.680   | 60.537          | 48.651         | 63.508     | 126                 |
| ELCTRONIC PROVING GROUND                      | FT. HUACHUA, AR.           | 11.463   | 10.275          | 4.534          | 4.032      | 323                 |
| ELCTRONIC WARFARE LABORATORY                  | FT. MONMOUTH, N.J.         | 88.844   | 22.478          | 49.774         | 18.140     | 60                  |
| ELECTRONICS TECHNOLOGY AND DEVICES LAB        | FT. MONMOUTH, N.J.         | 23.023   | 12.645          | 21.202         | 11.044     | 4                   |
| ENGINEER TOPOGRAPHIC LABORATORIES             | FT. BELVOIR, VA.           | 15.663   | 7.143           | 15.375         | 6.855      | 16                  |
| ENGINEER WATERWAYS EXPERIMENT STATION         | VICKSBURG, MISS.           | 47.253   | 37.224          | 12.386         | 10.803     | 39                  |
| FIELD ARTILLERY R&D                           | FT. SILL, OK.              | 2.753    | 2.753           | 0.771          | 0.771      | 211                 |
| FRANKFORD ARSENAL LABORATORIES                | PHILADELPHIA, PA.          | 194.635  | 73.536          | 23.535         | 17.036     | 10                  |
| HARRY DIAMOND LABORATORIES                    | WASHINGTON, D.C.           | 142.939  | 40.452          | 65.282         | 30.033     | 10                  |
| HUMAN ENGINEERING LABORATORY                  | ABERDEEN PROV GR., MD.     | 7.872    | 5.722           | 7.198          | 5.071      | 30                  |
| INFANTRY BOARD                                | FT. BENNING, GA.           | 3.144    | 3.144           | 1.207          | 1.207      | 109                 |
| INSTITUTE OF DENTAL RESEARCH                  | WASHINGTON, D.C.           | 1.940    | 0.827           | 0.827          | 0.827      | 62                  |
| INSTITUTE OF SURGICAL RESEARCH                | FT. SAM HOUSTON, TX.       | 3.553    | 3.553           | 1.635          | 1.635      | 136                 |
| KWAJALEIN MISSILE RANGE, MARSHALL ISLANDS     | APT. SAN FRANCISCO         | 89.966   | 4.657           | 89.271         | 3.962      | 29                  |
| LETTERMAN ARMY INSTITUTE OF RESEARCH          | PRESIDIO, S.F., CAL.       | 9.097    | 9.097           | 6.227          | 6.227      | 260                 |
| MATERIAL SYSTEMS ANALYSIS AGENCY              | ABERDEEN PROV GR., MD.     | 19.504   | 13.180          | 17.406         | 11.673     | 29                  |
| MATERIALS AND MECHANICS RESEARCH CENTER       | WATERDOWN, MASS.           | 32.309   | 19.402          | 22.486         | 13.801     | 16                  |
| MATERIAL TESTING DIRECTORATE                  | ABERDEEN PROV GR., MD.     | 35.481   | 35.110          | 25.548         | 25.548     | 245                 |
| MEDICAL BIOENGINEERING R&D LABORATORY         | FT. DEDRICK, MD.           | 3.429    | 3.429           | 2.836          | 2.836      | 27                  |
| MEDICAL RESEARCH INST OF INFECTIOUS DISEASES  | FT. DEDRICK, MD.           | 10.317   | 10.317          | 7.207          | 7.207      | 315                 |
| MISSILE RESEARCH, DEV. AND ENGINEERING LAB    | REDSTONE ARSENAL, AL.      | 110.866  | 57.551          | 88.523         | 38.599     | 36                  |
| MOBILITY EQUIPMENT R&D COMMAND                | FT. BELVOIR, VA            | 97.461   | 38.310          | 51.995         | 22.273     | 68                  |
| MATICK R&D COMMAND                            | HARREN MICHIGAN            | 69.381   | 22.288          | 26.870         | 10.742     | 37                  |
| NIGHT VISION LABORATORY                       | MATICK MASSACHUSETTS       | 43.506   | 30.434          | 25.252         | 15.637     | 104                 |
| PILOTING ARSENAL LABORATORIES                 | FT. BELVOIR, VA.           | 60.954   | 17.512          | 40.954         | 17.512     | 28                  |
| RED TECHNICAL SUPPORT ACTIVITY                | DOVER, N.H.                | 134.241  | 86.194          | 65.400         | 43.400     | 84                  |
| RESEARCH INST FOR BEHAVIORAL & SOCIAL SCI     | FT. MONMOUTH, N.J.         | 11.900   | 11.665          | 10.120         | 9.885      | 3                   |
| RESEARCH INSTITUTE OF ENVIRONMENTAL MEDICINE  | WASHINGTON, D.C.           | 19.667   | 8.123           | 19.667         | 8.123      | 36                  |
| THOPIC TEST CENTER                            | WATICK, MASS.              | 4.590    | 4.590           | 3.540          | 3.540      | 82                  |
| WALTER R&D ARMY INSTITUTE OF RESEARCH         | FT. CLAYTON, C.Z.          | 4.991    | 4.683           | 2.296          | 2.151      | 77                  |
| WHITE SANDS MISSILE RANGE                     | WASHINGTON, D.C.           | 23.568   | 23.568          | 15.146         | 15.146     | 456                 |
| YUMA PROVING GROUND                           | WHITE SANDS MR., N.M.      | 119.647  | 90.577          | 103.815        | 60.936     | 931                 |
|   | TUMA, ARIZONA              | 33.464   | 31.167          | 19.126         | 19.126     | 383                 |
| TOTALS  |                            | 1775.455 | 989.7071134.388 | 650.261        | 6007.28243 | 343 1330 2189 11412 |

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TABLE 2. ARMY ROTATE FACILITIES DATA, FY 1976

| INSTALLATION                   | SPACE AND PROPERTY               |            | REAL PROPERTY EQUIPMENT | COST (MILLIONS \$)                   |
|--------------------------------|----------------------------------|------------|-------------------------|--------------------------------------|
|                                | SPACE (THOUSANDS OF SQUARE FEET) | ACRES      |                         |                                      |
| AEONOMICAL RESEARCH LABORATORY | ACRES                            | LABORATORY | ADMIN                   | OTHER                                |
| FT. PUCKER, AL                 | 10                               | 52.747     | 7.747                   | 23.772                               |
| EL PASO, TEXAS                 | 26                               | 36.550     | 36.646                  | 1.995                                |
| MOUNTAIN VIEW, CAL.            | 108                              | 95.014     | 43.308                  | 15.584                               |
| FT. BRAGG, N.C.                | 27                               | 3.978      | 39.140                  | 39.340                               |
| FT. CARLISLE, PA.              | 66.7155                          | 5.100      | 120.079                 | 120.152                              |
| FT. KNOX, KENTUCKY             | 6900                             | 6-200      | 54.455                  | 151.508                              |
| WHITE SANDS MR., N.M.          | 45                               | 51.000     | 3.100                   | 3.600                                |
| EDWARDS AFB, CA                | 19                               | 4-280      | 32.830                  | 98.490                               |
| FT. RUCKER, AL.                | 1169                             | 2.440      | 50.584                  | 177.384                              |
| FT. MONMOUTH, NJ               | 0                                | 25.742     | 30.108                  | 0.000                                |
| ABERDEEN PROV GR., MD.         | 1920                             | 537.624    | 20.103                  | 36.157                               |
| WATERLIFT, N.Y.                | 4                                | 167.463    | 24.600                  | 7.480                                |
| MANDEVILLE, NH                 | 24                               | 17.230     | 6.138                   | 97.646                               |
| FT. MONMOUTH, N.J.             | 227                              | 89.475     | 6.139                   | 12.569                               |
| FT. MONMOUTH, N.J.             | 0                                | 41.000     | 48.000                  | 1.000                                |
| EDGWOOD ARSENAL, MD.           | 2000                             | 501.312    | 128.180                 | 98.595                               |
| EDGWOOD ARSENAL, AR.           | 42800                            | 0.000      | 55.518                  | 120.983                              |
| FT. MONMOUTH, N.J.             | 0                                | 142.936    | 13.617                  | 47.502                               |
| FT. MONMOUTH, N.J.             | 0                                | 95.617     | 10.575                  | 25.936                               |
| FT. BELMONT, VA.               | 33                               | 90.722     | 7.000                   | 19.280                               |
| VICKSBURG, MISS.               | 2092                             | 16655.220  | 330.304                 | 170.806                              |
| FT. SILL, OK.                  | 23                               | 28.100     | 32.802                  | 17.640                               |
| PHILADELPHIA, PA.              | 43                               | 577.421    | 149.872                 | 425.050                              |
| WASHINGTON, D.C.               | 2830                             | 277.444    | 177.390                 | 397.784                              |
| ABERDEEN PROV GR., MD.         | 10                               | 30.776     | 16.352                  | 29.538                               |
| FT. BENNING, GA.               | 10                               | 0.000      | 39.237                  | 66.133                               |
| WASHINGTON, D.C.               | 4                                | 9.325      | 5.696                   | 6.730                                |
| FT. SAN HOUSTON, TX.           | 1                                | 26.424     | 1.800                   | 22.408                               |
| APO SAN FRANCISCO              | 1491                             | 0.000      | 210.232                 | 2627.077                             |
| PR SIDIQI, S.F., CAL.          | 5                                | 119.520    | 116.792                 | 103.984                              |
| ABERDEEN PROV GR., MD.         | 3                                | 13.083     | 91.994                  | 1.715                                |
| WATERDOWN, MASS.               | 48                               | 386.151    | 96.018                  | 166.979                              |
| ABERDEEN PROV GR., MD.         | 25048                            | 694.300    | 4.351                   | 29.000                               |
| FT. DODGE, IA                  | 4                                | 44.325     | 27.300                  | 35.031                               |
| FT. DODGE, IA                  | 43                               | 80.854     | 19.020                  | 209.094                              |
| FT. DODGE, IA                  | 11000                            | 1175.000   | 262.000                 | 408.000                              |
| FT. BELMONT, VA.               | 1064                             | 693.649    | 115.530                 | 194.279                              |
| WATKIN MICHIGAN                | 43                               | 458.598    | 126.433                 | 62.644                               |
| WATKIN MASSACHUSETTS           | 2994                             | 550.562    | 65.990                  | 412.268                              |
| FT. BELVOIR, VA.               | 21                               | 73.261     | 3.521                   | 67.207                               |
| DOVER, N.J.                    | 5852                             | 612.590    | 2643.453                | 76.363                               |
| FT. MONMOUTH, N.J.             | 136                              | 17.826     | 36.599                  | 77.615                               |
| FT. MONTGOMERY, D.C.           | 0                                | 42.000     | 8.000                   | 4.000                                |
| MATICK, MASS.                  | 4                                | 60.421     | 18.563                  | 28.647                               |
| FT. CLAYTON, C.Z.              | 14966                            | 18.782     | 30.050                  | 97.310                               |
| WHITE SANDS MR., N.M.          | 206                              | 382.494    | 58.360                  | 0.090                                |
| WHITE SANDS MISSILE RANGE      | 4216377                          | 1430.159   | 436.105                 | 2848.369                             |
| YUMA PROV GRND                 | 870365                           | 92.868     | 98.754                  | 1210.338                             |
| <b>TOTALS</b>                  |                                  |            |                         | 1133.054 1081.472                    |
|                                |                                  |            |                         | 6700010 11693.872 4152.200 15736.866 |

TABLE 3. NAVY ONTE ACTIVITIES, PROGRAM AND PERSONNEL DATA, FY 1976

| INSTALLATION                              | FUNDING DATA (MILLIONS \$) |         |         |         |         |       | PERSONNEL DATA |         |      |       |       |      |
|---|----------------------------|---------|---------|---------|---------|-------|----------------|---------|------|-------|-------|------|
|   | TOTAL                      | INHOUSE | PROF    | MIL     | CIV     | PROF  | TOTAL          | INHOUSE | PROF | MIL   | CIV   | PROF |
| AEROSPACE MEDICAL RESEARCH LABORATORY     | 6.172                      | 6.172   | 5.399   | 5.399   | 56      | 119   | 18             | 18      | 26   | 56    | 119   | 18   |
| AIR DEVELOPMENT CENTER                    | 193.566                    | 76.132  | 123.360 | 53.150  | 291     | 2349  | 3              | 35      | 64   | 291   | 2349  | 3    |
| AIR ENGINEERING CENTER                    | 94.907                     | 41.362  | 20.880  | 16.760  | 230     | 1667  | 1              | 2       | 37   | 230   | 1667  | 1    |
| AIR PROPULSION TEST CENTER                | 21.310                     | 14.302  | 16.692  | 11.204  | 8       | 619   | 0              | 2       | 8    | 8     | 619   | 0    |
| AIR TEST CENTER                           | 100.074                    | 83.953  | 56.656  | 47.592  | 1520    | 2262  | 3              | 7       | 192  | 3     | 159   | 7    |
| AIR TEST FACILITY ISHOP INSTALLATION      | 11.435                     | 10.387  | 2.569   | 1.712   | 110     | 350   | 0              | 1       | 13   | 110   | 350   | 0    |
| ARCTIC RESEARCH LABORATORY                | 9.344                      | 0.034   | 6.756   | 0.000   | 2       | 0     | 0              | 0       | 0    | 2     | 0     | 0    |
| BIO MEDICAL RESEARCH LABORATORY           | 2.962                      | 0.596   | 2.188   | 0.330   | 18      | 6     | 5              | 1       | 8    | 18    | 6     | 5    |
| BLOOD RESEARCH LABORATORY                 | 1.848                      | 1.848   | 0.818   | 0.818   | 17      | 12    | 3              | 0       | 5    | 166   | 3     | 3    |
| CIVIL ENGINEERING LABORATORY              | 14.312                     | 9.536   | 11.571  | 7.261   | 15      | 300   | 1              | 30      | 9    | 15    | 300   | 1    |
| CLOTHING AND TEXTILE RESEARCH UNIT        | 1.518                      | 1.341   | 0.661   | 0.661   | 1       | 60    | 0              | 1       | 1    | 1     | 60    | 0    |
| COASTAL SYSTEMS LABORATORY                | 32.227                     | 23.928  | 24.666  | 17.340  | 115     | 631   | 1              | 23      | 13   | 115   | 631   | 1    |
| DENTAL RESEARCH INSTITUTE, NTC            | 0.975                      | 0.975   | 0.540   | 0.540   | 16      | 9     | 3              | 1       | 6    | 16    | 9     | 3    |
| ELECTRONICS LABORATORY CENTER             | 80.280                     | 51.060  | 55.142  | 34.945  | 94      | 1433  | 3              | 85      | 30   | 94    | 1433  | 3    |
| ENVIRONMENTAL PRECISION RESEARCH FACILITY | 2.620                      | 1.477   | 2.302   | 1.726   | 14      | 41    | 1              | 1       | 4    | 14    | 41    | 1    |
| EXPLOSIVE ORDNANCE DISPOSAL FACILITY      | 9.767                      | 5.850   | 3.540   | 1.655   | 57      | 168   | 0              | 3       | 36   | 57    | 168   | 0    |
| HEALTH RESEARCH CENTER                    | 2.628                      | 2.628   | 2.057   | 2.057   | 32      | 73    | 10             | 11      | 13   | 32    | 73    | 10   |
| MEDICAL FIELD RESEARCH LABORATORY         | 1.177                      | 1.167   | 0.860   | 0.785   | 20      | 30    | 2              | 1       | 3    | 20    | 30    | 2    |
| MEDICAL RESEARCH INSTITUTE                | 12.721                     | 12.721  | 10.035  | 10.035  | 221     | 210   | 62             | 45      | 221  | 221   | 210   | 62   |
| MEDICAL RESEARCH UNIT, NC?                | 2.551                      | 2.551   | 1.892   | 1.892   | 72      | 4     | 8              | 1       | 20   | 3     | 20    | 3    |
| MEDICAL RESEARCH UNIT, NC?                | 1.455                      | 1.455   | 1.100   | 1.100   | 25      | 217   | 5              | 3       | 9    | 25    | 217   | 5    |
| MEDICAL RESEARCH UNIT, NC? (HOSPITAL)     | 0.966                      | 0.966   | 0.607   | 0.607   | 19      | 58    | 3              | 3       | 4    | 19    | 58    | 3    |
| NATIONAL PARACHUTE TEST RANGE             | 16.346                     | 13.584  | 9.133   | 7.473   | 262     | 290   | 5              | 0       | 36   | 262   | 290   | 5    |
| ORDNANCE MISSILE TEST FACILITY            | 4.400                      | 3.675   | 3.508   | 2.354   | 93      | 65    | 0              | 0       | 33   | 93    | 65    | 0    |
| PACIFIC MISSILE TEST CENTER               | 197.710                    | 138.408 | 120.239 | 97.864  | 1004    | 4363  | 5              | 15      | 277  | 1004  | 4363  | 5    |
| PERSONNEL RESEARCH & DEVELOPMENT CENTER   | 11.454                     | 7.514   | 8.360   | 5.237   | 27      | 270   | 1              | 67      | 21   | 27    | 270   | 1    |
| RESEARCH LABORATORY                       | 181.151                    | 155.114 | 161.364 | 115.327 | 133     | 3507  | 0              | 307     | 34   | 1524  | 3507  | 0    |
| SHIP RESEARCH AND DEVELOPMENT CENTER      | 115.330                    | 63.660  | 63.660  | 63.660  | 70      | 2771  | 1              | 125     | 17   | 1221  | 2771  | 1    |
| SUBMARINE MEDICAL RESEARCH LABORATORY     | 2.077                      | 2.077   | 1.653   | 1.653   | 32      | 60    | 6              | 11      | 8    | 32    | 60    | 6    |
| SURFACE WEAPONS CENTER                    | 244.601                    | 124.532 | 174.038 | 81.202  | 128     | 5132  | 2              | 251     | 60   | 128   | 5132  | 2    |
| UNDERSEA CENTER                           | 98.747                     | 57.857  | 69.764  | 43.407  | 280     | 1596  | 2              | 122     | 22   | 798   | 1596  | 2    |
| UNDERWATER RADAR DIRECTORATE              | 20.891                     | 5.050   | 15.378  | 3.812   | 42      | 46    | 0              | 1       | 17   | 42    | 46    | 0    |
| UNDERWATER SYSTEMS CENTER                 | 177.108                    | 101.658 | 69.442  | 49.730  | 104     | 3019  | 1              | 96      | 27   | 1592  | 3019  | 1    |
| WEAPONS CENTER                            | 217.344                    | 125.047 | 125.055 | 70.300  | 516     | 4366  | 0              | 138     | 49   | 1482  | 4366  | 0    |
| WEAPONS EVALUATION FACILITY               | 8.564                      | 8.564   | 1.747   | 1.747   | 149     | 116   | 0              | 0       | 53   | 46    | 116   | 0    |
| TOTALS                                    |                            |         |         |         | 5754    | 36228 | 161            | 1609    | 1386 | 14058 | 36228 | 161  |
|   | 1889.1071187.2351173.448   |         |         |         | 766.431 |       |                |         |      |       |       |      |

TABLE 4. NAVY R&amp;T&amp;E FACILITIES DATA, FY 1976

| INSTALLATION       | SPACE AND PROPERTY |            |          | COST (MILLIONS \$) |
|--------------------|--------------------|------------|----------|--------------------|
|                    | ACRES              | LABORATORY | ADMIN    |                    |
| REAL EQUIPMENT     |                    |            |          |                    |
| PENSACOLA FL       | 1                  | 212.000    | 46.500   | 12.000             |
| JOHNSONVILLE FA    | 750                | 833.000    | 43.000   | 451.000            |
| LAKEHURST, NJ      | 7416               | 257.984    | 130.677  | 2278.734           |
| TRIDENT, NJ        | 68                 | 391.044    | 37.520   | 190.173            |
| PATUXENT RIVER, MD | 6638               | 15.125     | 483.032  | 4419.105           |
| LAKEHURST, NJ      | 4000               | 67.612     | 15.113   | 69.056             |
| SEACOM, AK         | 4973               | 40.800     | 5.800    | 269.400            |
| OAKLAND, CA        | 5                  | 64.700     | 6.731    | 45.373             |
| CHELSEA, MS        | 1                  | 12.880     | 2.760    | 8.560              |
| PORT MURRAY, NJ    | 22                 | 120.352    | 23.977   | 51.543             |
| NATICK, MA         | 2                  | 10.000     | 7.000    | 3.000              |
| PANAMA CITY, FL    | 692                | 249.133    | 35.198   | 307.423            |
| GEFAT LAKES, IL    | 0                  | 11.780     | 10.174   | 6.487              |
| SAN DIEGO, CA      | 1548               | 461.049    | 122.732  | 85.324             |
| MONTPELIER, CA     | 0                  | 1.808      | 5.012    | 10.490             |
| INDIAN HEAD, MD    | 1084               | 50.400     | 23.397   | 26.416             |
| SAN DIEGO, CA      | 1                  | 11.177     | 4.500    | 0.000              |
| CAMP LEJEUNE, NC   | 0                  | 29.816     | 8.655    | 19.381             |
| BFTMFSDA, NC       | 4                  | 133.495    | 12.945   | 38.547             |
| TAIPEI, TAIWAN     | 2                  | 32.882     | 16.075   | 48.364             |
| CAIRO, EGYPT       | 3                  | 26.165     | 8.288    | 34.747             |
| APO, NEW YORK      | 0                  | 5.096      | 1.587    | 0.645              |
| EL CENTRO, CA      | 484608             | 6.400      | 56.670   | 1142.407           |
| WHITE SANDS, N.M.  | 112                | 0.000      | 90.540   | 316.047            |
| POINT MUGU, CA     | 27090              | 290.921    | 572.263  | 2462.024           |
| SAN DIEGO, CA      | 1                  | 49.300     | 4.900    | 0.000              |
| WASHINGTON, D.C.   | 699                | 2140.804   | 236.893  | 594.454            |
| WASHINGTON, D.C.-  | 322                | 388.522    | 192.814  | 1405.876           |
| GROTON, CT         | 1                  | 23.325     | 6.441    | 13.118             |
| SILVER SPRING, MD  | 5380               | 897.833    | 259.161  | 1566.511           |
| SAN DIEGO, CA      | 37398              | 516.055    | 96.935   | 300.049            |
| NEWPORT, R.I.      | 1042               | 67.000     | 11.172   | 266.044            |
| NEWPORT, RI        | 314                | 842.244    | 107.528  | 532.378            |
| CHIMA LAKE, CA     | 1093636            | 101.020    | 357.595  | 5735.192           |
| ALBUQUERQUE, N.M.  | 7                  | 0.400      | 53.592   | 64.926             |
| <b>TOTALS</b>      |                    |            |          |                    |
|                    | 1677808            | 8412.122   | 3099.178 | 22870.799          |
|                    |                    |            |          | 1194.390           |
|                    |                    |            |          | 725.304            |

TABLE 5. AIR FORCE ROTC ACTIVITIES, PROGRAM AND PERSONNEL DATA, FY 1976

| INSTALLATION                               | FUNDING DATA (MILLIONS \$) |                |                |                |              |              | PERSONNEL DATA |            |             |             |     |     |
|--|----------------------------|----------------|----------------|----------------|--------------|--------------|----------------|------------|-------------|-------------|-----|-----|
|  | TOTAL                      | INHOUSE        | ROTC           | ROTCE          | TOTAL        | INHOUSE      | MIL            | CIV        | MIL         | CIV         | MIL | CIV |
| AFRO PROPULSION LABORATORY                 | 61.350                     | 11.426         | 60.401         | 10.477         | 49           | 354          | 6              | 25         | 43          | 191         |     |     |
| ARMAMENT DEVELOPMENT AND TEST CENTER       | 530.109                    | 173.591        | 98.508         | 33.004         | 4,379        | 2900         | 92             | 20         | 1247        | 484         |     |     |
| ARNOLD ENGINEERING DEVELOPMENT CENTER      | 105.122                    | 99.205         | 97.394         | 97.394         | 86           | 152          | 8              | 5          | 57          | 61          |     |     |
| AVIONICS LABORATORY                        | 120.372                    | 18.638         | 125.294        | 15.560         | 179          | 821          | 12             | 35         | 147         | 460         |     |     |
| CIVIL ENGINEERING CENTER                   | 8.757                      | 4.234          | 4.137          | 0.414          | 189          | 27           | 10             | 3          | 75          | 17          |     |     |
| EASTERN TEST RANGE                         | 186.392                    | 82.497         | 1.216          | 1.216          | 1032         | 1562         | 1              | 0          | 108         | 209         |     |     |
| FLIGHT DYNAMICS LABORATORY                 | 93.655                     | 31.391         | 89.589         | 27.931         | 199          | 854          | 17             | 45         | 125         | 492         |     |     |
| FLIGHT TEST CENTER                         | 119.421                    | 94.175         | 71.642         | 53.750         | 3570         | 1507         | 1              | 20         | 189         | 386         |     |     |
| FRANK J. SEILER RESEARCH LABORATORY        | 1.744                      | 1.082          | 0.793          | 0.631          | 22           | 9            | 17             | 1          | 14          | 4           |     |     |
| GEOPHYSICS LABORATORY                      | 61.067                     | 23.317         | 55.931         | 21.024         | 120          | 509          | 12             | 77         | 36          | 328         |     |     |
| HUMAN RESOURCES LABORATORY                 | 14.994                     | 7.311          | 13.242         | 5.559          | 125          | 230          | 14             | 41         | 65          | 109         |     |     |
| MATERIALS LABORATORY                       | 66.252                     | 16.072         | 41.921         | 14.638         | 53           | 345          | 13             | 45         | 67          | 243         |     |     |
| ROCKET PROPULSION LABORATORY               | 33.314                     | 13.947         | 29.093         | 11.631         | 177          | 264          | 6              | 10         | 77          | 93          |     |     |
| ROME AIP DEVELOPMENT CENTER                | 164.490                    | 20.200         | 57.674         | 15.124         | 237          | 1203         | 12             | 60         | 102         | 630         |     |     |
| SCHOOL OF AEROSPACE MEDICINE               | 20.574                     | 19.033         | 10.185         | 8.715          | 392          | 285          | 57             | 33         | 84          | 110         |     |     |
| SPACE AND MISSILE TEST CENTER              | 60.929                     | 16.705         | 48.209         | 9.798          | 397          | 327          | 3              | 0          | 162         | 113         |     |     |
| WEAPONS LABORATORY                         | 112.457                    | 30.312         | 99.643         | 17.707         | 682          | 459          | 75             | 31         | 422         | 219         |     |     |
| 6570 AEROSPACE MEDICAL RESEARCH LABORATORY | 16.062                     | 8.186          | 12.712         | 4.836          | 133          | 158          | 22             | 28         | 60          | 97          |     |     |
| <b>TOTALS</b>                              | <b>1786.561</b>            | <b>671.322</b> | <b>917.484</b> | <b>349.414</b> | <b>12019</b> | <b>11966</b> | <b>378</b>     | <b>479</b> | <b>3085</b> | <b>4146</b> |     |     |

TABLE 6. AIR FORCE ADTF FACILITIES DATA, FY 1976

| INSTALLATION                               | SPACE AND PROPERTY<br>SPACE (THOUSANDS OF SQUARE FEET) |            |          | COST (MILLIONS \$)      |
|--|--|------------|----------|-------------------------|
|  | ACRES  | LABORATORY | ADMIN    | REAL PROPERTY EQUIPMENT |
| WPAFB, OH                                  | 40   | 227.103    | 32.999   | 390.434                 |
| ESLIN AFB, FL                              | 464.248  | 131.545    | 553.506  | 9060.802                |
| TULLahoma, TN.                             | 39875  | 1151.654   | 201.411  | 536.954                 |
| WPAFB, OH                                  | 230  | 229.901    | 12.152   | 412.829                 |
| TYNDALL AFB, FL                            | 760  | 10.136     | 22.391   | 27.612                  |
| PATRICK AFB, FL                            | 17220  | 110.333    | 1125.084 | 4587.672                |
| WPAFB, OH                                  | 90   | 497.000    | 161.820  | 258.269                 |
| EDWARDS AFB, CA                            | 246323   | 998.928    | 258.405  | 6241.934                |
| USAF ACADEMY, CO                           | 0  | 9.000      | 2.800    | 0.240                   |
| HANSCOM AFB, MS.                           | 269  | 422.418    | 14.813   | 31.383                  |
| BROOKS AFB, TX                             | 13   | 69.511     | 35.654   | 36.582                  |
| WPAFB, OH                                  | 15   | 222.809    | 25.169   | 111.156                 |
| EDWARDS AFB, CA                            | 72560  | 419.046    | 86.848   | 4.780                   |
| GRIFFISS AFB, N.Y.                         | 1494   | 802.827    | 83.496   | 128.713                 |
| BROOKS AFB, TX                             | 74   | 360.655    | 77.980   | 48.737                  |
| VANDENBERG AFB, CA                         | 59657  | 91.407     | 334.384  | 431.954                 |
| KIRTLAND AFB, N.M.                         | 702  | 531.810    | 123.071  | 125.495                 |
| WPAFB, OH                                  | 30   | 223.459    | 10.000   | 16.880                  |
| 6570 AEROSPACE MEDICAL RESEARCH LABORATORY |  |            |          | 12.012                  |
| TOTALS                                     | 699510   | 6511.042   | 3161.983 | 22450.428               |
|  |  |            |          | 1573.965                |
|  |  |            |          | 1445.962                |

TABLE 7. DEPARTMENT OF DEFENSE ROTC ACTIVITIES, PROGRAM AND PERSONNEL DATA, FY 1976

| INSTALLATION<br>ARMED FORCES RADIOLOGY RES. INSTITUTE | FUNDING DATA (MILLIONS \$) |       |         | PERSONNEL DATA |     |     |      |       |     |     |      |
|---|----------------------------|-------|---------|----------------|-----|-----|------|-------|-----|-----|------|
|   | TOTAL                      |       | INHOUSE | TOTAL          |     | PHD | PROF | TOTAL |     | PHD | PROF |
|   | ROTCE                      | ROTCE | ROTCE   | MIL            | CIV | MIL | CIV  | MIL   | CIV | MIL | CIV  |
|   | 5.798                      | 5.798 | 4.332   | 87             | 137 | 18  | 18   | 53    | 55  |     |      |
| TOTALS  | 5.798                      | 5.798 | 4.332   | 87             | 137 | 18  | 18   | 53    | 55  |     |      |

SUMMARY

DEPARTMENT OF DEFENSE IN-HOUSE R&D LABORATORIES

PROGRAM DATA FOR FY 1976

|                                 | (MILLIONS) |
|---------------------------------|------------|
| TOTAL ANNUAL LABORATORY PROGRAM | 4228.844   |
| TOTAL INHOUSE PROGRAM           | 2025.673   |
| TOTAL RDT&E PROGRAM             | 2492.490   |
| TOTAL INHOUSE RDT&E             | 1253.984   |
| TOTAL ANNUAL OPERATING COST     | 557.367    |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED STRENGTH | TOTAL PHD | TOTAL PROFESSIONALS |
|-----------|---------------------|-----------|---------------------|
| MILITARY  | 12224               | 868       | 4562                |
| CIVILIAN  | 56731               | 3288      | 25018               |
| TOTAL     | 68955               | 4156      | 29580               |

PHYSICAL FACILITIES (END OF FY 1976)

|       |         |
|-------|---------|
| ACRES | 1725402 |
|-------|---------|

SPACE (THOUSANDS OF SQ FT)

|                |           |
|----------------|-----------|
| LABORATORY     | 21040.153 |
| ADMINISTRATIVE | 5624.704  |
| OTHER          | 30596.338 |
| TOTAL          | 57261.195 |

COST (MILLIONS)

|               |          |
|---------------|----------|
| REAL PROPERTY | 1815.972 |
| EQUIPMENT     | 1902.283 |
| TOTAL         | 3718.255 |

TABLE 1A. ARMY R&amp;D LABORATORIES, PROGRAM AND PERSONNEL DATA, FY 1976

| INSTALLATION                                 | FUNDING DATA (MILLIONS \$) |         |         | PERSONNEL DATA |      |       |
|--|----------------------------|---------|---------|----------------|------|-------|
|  | TOTAL                      | INHOUSE | RDTC    | TOTAL          | PHD  | PROF  |
|  | MIL                        | CIV     | MIL     | CIV            | MIL  | CIV   |
| AEROMEDICAL RESEARCH LABORATORY              | 3.365                      | 2.303   | 2.303   | 58             | 57   | 17    |
| AIR MOBILITY R&D LABORATORY                  | 48.444                     | 13.950  | 47.542  | 13.950         | 27   | 28    |
| ATMOSPHERIC SCIENCES LABORATORY              | 13.174                     | 10.688  | 13.073  | 10.587         | 440  | 14    |
| AVIONICS LABORATORY                          | 16.084                     | 11.382  | 10.605  | 7.195          | 12   | 183   |
| BALLISTICS RESEARCH LABORATORIES             | 41.410                     | 30.405  | 38.033  | 27.545         | 27   | 777   |
| BENET WEAPONS LABORATORY                     | 16.885                     | 13.922  | 10.093  | 7.130          | 5    | 377   |
| COLD REGIONS R&D LABORATORY                  | 9.106                      | 6.803   | 6.090   | 4.748          | 13   | 26    |
| COMBAT SURVEILLANCE & TGT ACQUISITION LABS   | 32.746                     | 14.839  | 28.077  | 12.303         | 11   | 240   |
| COMMUNICATIONS ADP LABORATORY                | 23.360                     | 19.092  | 18.185  | 14.977         | 12   | 361   |
| CONSTRUCTION ENGINEERING RESEARCH LABORATORY | 14.997                     | 12.132  | 13.107  | 11.183         | 3    | 209   |
| EDGEMOOR ARSENAL LABORATORIES                | 65.680                     | 60.537  | 48.651  | 43.508         | 126  | 824   |
| EDGEMOOR ARSENAL ARSENAL, MD.                | 88.000                     | 22.478  | 49.774  | 18.140         | 60   | 434   |
| FT. MONMOUTH, N.J.                           | 23.023                     | 12.645  | 21.202  | 11.044         | 4    | 340   |
| FT. MONMOUTH, N.J.                           | 15.663                     | 7.143   | 15.375  | 6.855          | 16   | 261   |
| FT. BELVOIR, VA.                             | 47.253                     | 37.224  | 12.386  | 10.803         | 39   | 1350  |
| VICKSBURG, MISS.                             | 194.635                    | 73.536  | 23.535  | 17.036         | 10   | 1079  |
| PHILADELPHIA, PA.                            | 142.939                    | 40.452  | 65.282  | 30.033         | 10   | 1399  |
| WASHINGTON, D.C.                             | 7.872                      | 5.722   | 7.198   | 5.071          | 30   | 141   |
| ABERDEEN PROV. GR., MD.                      | 1.940                      | 1.940   | 0.827   | 0.827          | 62   | 23    |
| WASHINGTON, D.C.                             | 3.553                      | 1.635   | 1.635   | 1.635          | 136  | 78    |
| FT. SAM HOUSTON, TX.                         | 9.097                      | 9.097   | 6.227   | 6.227          | 260  | 201   |
| PRESIDIO, S.F., CAL.                         | 32.309                     | 19.402  | 22.486  | 13.801         | 16   | 641   |
| WATER TOWN, MASS.                            | 3.429                      | 3.429   | 2.836   | 2.836          | 27   | 81    |
| FT. DODGE, IOWA                              | 10.317                     | 10.317  | 7.207   | 7.207          | 315  | 198   |
| INSTITUTE OF DENTAL RESEARCH                 | 57.551                     | 57.551  | 88.523  | 38.599         | 36   | 1243  |
| INSTITUTE OF SURGICAL RESEARCH               | 110.868                    | 97.461  | 51.995  | 22.273         | 68   | 1207  |
| LETTERMAN ARMY INSTITUTE OF RESEARCH         | 49.381                     | 22.288  | 26.870  | 10.747         | 37   | 838   |
| MATERIALS AND MECHANICS RESEARCH CENTER      | 43.506                     | 30.434  | 25.252  | 15.837         | 104  | 1152  |
| MEDICAL BIODEENGINEERING R&D LABORATORY      | 17.512                     | 40.954  | 17.512  | 40.954         | 28   | 410   |
| MEDICAL RESEARCH INST OF INFECTIOUS DISEASES | 86.194                     | 85.400  | 43.400  | 84             | 4174 | 0     |
| MISSILE RES., NEV. AND ENGINEERING LAB       | 19.667                     | 8.123   | 19.667  | 8.123          | 36   | 233   |
| MOBILITY EQUIPMENT R&D COMMAND               | 6.590                      | 4.590   | 3.540   | 3.540          | 82   | 80    |
| MOBILITY SYSTEMS LABORATORY                  | 23.568                     | 23.568  | 15.146  | 15.146         | 456  | 500   |
| NATICK, MASSACHUSETTS                        | 40.954                     | 40.954  | 17.512  | 17.512         | 5    | 93    |
| FT. BELVOIR, VA.                             | 134.241                    | 86.194  | 85.400  | 43.400         | 31   | 7     |
| DOVER, N.J.                                  | 19.667                     | 8.123   | 19.667  | 8.123          | 63   | 16    |
| WASHINGTON, D.C.                             | 6.590                      | 4.590   | 3.540   | 3.540          | 123  | 40    |
| RESEARCH INSTITUTE OF ENVIRONMENTAL MEDICINE | 23.568                     | 23.568  | 15.146  | 15.146         | 500  | 131   |
| NATICK, MASS.                                | 23.568                     | 23.568  | 15.146  | 15.146         | 63   | 430   |
| WASHINGTON, D.C.                             | 23.568                     | 23.568  | 15.146  | 15.146         | 511  | 511   |
| WALTER REED ARMY INSTITUTE OF RESEARCH       | 1390.361                   | 732.623 | 829.076 | 462.116        | 2650 | 20181 |
| TOTALS                                       | 1390.361                   | 732.623 | 829.076 | 462.116        | 2650 | 20181 |
|  |                            |         |         |                | 337  | 1235  |
|  |                            |         |         |                | 1204 | 9310  |

TABLE 2A. ARMY RED FACILITIES DATA, FY 1976

| INSTALLATION                                   | SPACE AND PROPERTY<br>(THOUSANDS OF SQUARE FEET) |            |          | COST (MILLIONS \$) |
|--|--|------------|----------|--------------------|
|  | ACRES  | LABORATORY | ADMIN    |                    |
| FT. RUCKER AL                                  | 10   | 52.747     | 7.797    | 23.772             |
| MOUNTAIN VIEW, CAL.                            | 108  | 85.014     | 43.308   | 15.504             |
| WHITE SANDS MR, N.M.                           | 45   | 51.000     | 3.100    | 3.600              |
| FT. MONMOUTH, N.J.                             | 0  | 25.742     | 30.108   | 48.000             |
| ABERDEEN PROV. GR., MD.                        | 1920   | 537.624    | 20.103   | 0.000              |
| WATERVLIFT, N.Y.                               | 4  | 167.463    | 24.600   | 36.157             |
| HANOVER, NH                                    | 24   | 17.230     | 6.162    | 7.480              |
| FT. MONMOUTH, N.J.                             | 227  | 88.475     | 6.139    | 97.646             |
| FT. MONMOUTH, N.J.                             | 0  | 41.000     | 48.000   | 12.139             |
| CONSTRUCTION ENGINEERING RESEARCH LABORATORIES | 30   | 76.081     | 34.159   | 40.462             |
| EDgewood ARSENAL, MD.                          | 2000   | 501.312    | 124.180  | 29.908             |
| FT. MONMOUTH, N.J.                             | 0  | 142.936    | 13.617   | 4.018              |
| FT. MONMOUTH, N.J.                             | 0  | 95.617     | 10.575   | 6.663              |
| FT. BELVOIR, VA.                               | 33   | 90.722     | 7.000    | 12.278             |
| VICKSBURG, MISS.                               | 2092   | 1665.220   | 330.304  | 17.103             |
| PHILADELPHIA, PA.                              | 43   | 577.421    | 149.872  | 15.494             |
| WASHINGTON, D.C.                               | 2830   | 277.944    | 177.369  | 0.000              |
| ABERDEEN PROV. GR., MD.                        | 10   | 30.776     | 19.352   | 47.800             |
| WASHINGTON, D.C.                               | 4  | 9.325      | 5.696    | 10.931             |
| FT. SAW HUSTON, TX.                            | 1  | 26.424     | 1.800    | 6.000              |
| PRESIDIO, S.F., CAL.                           | 5  | 119.520    | 116.792  | 11.000             |
| WATER TOWN, MASS.                              | 48   | 389.161    | 96.018   | 17.211             |
| FT. DIERICK, MD.                               | 5  | 44.325     | 27.300   | 29.096             |
| INSTITUTE OF DENTAL RESEARCH                   |  |            |          | 12.549             |
| INSTITUTE OF SURGICAL RESEARCH                 |  |            |          | 16.960             |
| LETTERMAN ARMY INSTITUTE OF RESEARCH           |  |            |          | 33.854             |
| MATERIALS AND MECHANICS RESEARCH CENTER        |  |            |          | 28.991             |
| MEDICAL BIOMEDICAL ENGINEERING RED LABORATORY  |  |            |          | 32.250             |
| MEDICAL RESEARCH INST OF INFECTIOUS DISEASES   |  |            |          | 0.761              |
| MISSILE RES. & DEV. AND ENGINEERING LAB        |  |            |          | 0.893              |
| MOBILITY EQUIPMENT RED COMMAND                 |  |            |          | 1.118              |
| MOBILITY SYSTEMS LABORATORY                    |  |            |          | 2.013              |
| NATICK RED COMMAND                             |  |            |          | 1.681              |
| NATICK MASSACHUSETTS                           | 2994   | 550.562    | 65.900   | 42.449             |
| FT. BELVOIR, VA.                               | 21   | 80.854     | 19.820   | 17.824             |
| DOVER, N.J.                                    | 5852   | 1175.000   | 262.000  | 32.000             |
| FT. BELVOIR, VA.                               | 0  | 693.649    | 115.530  | 49.562             |
| WARREN MICHIGAN                                | 43   | 458.568    | 126.433  | 30.000             |
| NATICK MASSACHUSETTS                           |  |            |          | 20.970             |
| NIGHT VISION LABORATORY                        |  |            |          | 7.500              |
| PICATINNY ARSENAL LABORATORIES                 |  |            |          | 25.878             |
| RESEARCH INST FOR BEHAVIORAL & SOCIAL SCI      |  |            |          | 2.157              |
| RESEARCH INSTITUTE OF ENVIRONMENTAL MEDICINE   |  |            |          | 3.900              |
| WALTER REED ARMY INSTITUTE OF RESEARCH         |  |            |          | 75.000             |
| TOTALS   | 30666  | 9249.479   | 2593.905 | 562.320            |
|  |  |            |          | 542.687            |
|  |  |            |          | 5779.442           |
|  |  |            |          | 542.687            |

TABLE 3A. NAVY R&amp;D LABORATORIES, PROGRAM AND PERSONNEL DATA, FY 1976

| INSTALLATION                               | FUNDING DATA (MILLIONS \$) |         |         |         |      |       | PERSONNEL DATA |       |     |      |       |      |
|--|----------------------------|---------|---------|---------|------|-------|----------------|-------|-----|------|-------|------|
|  | TOTAL                      | INHOUSE | RD&TE   | MIL     | CIV  | MIL   | CIV            | RD&TE | MIL | CIV  | MIL   | CIV  |
| AEROSPACE MEDICAL RESEARCH LABORATORY      | 6,172                      | 6,172   | 5,399   | 53,159  | 291  | 2349  | 3              | 119   | 18  | 18   | 26    | 44   |
| AIR DEVELOPMENT CENTER                     | 193,599                    | 76,132  | 123,360 | 53,159  | 291  | 2349  | 3              | 35    | 66  | 35   | 66    | 1160 |
| AIR ENGINEERING CENTER                     | 94,907                     | 41,382  | 20,980  | 18,768  | 230  | 1667  | 1              | 2     | 37  | 37   | 359   |      |
| ARCTIC RESEARCH LABORATORY                 | 8,344                      | 0,039   | 6,756   | 0,000   | 2    | 0     | 0              | 0     | 1   | 0    |       |      |
| BIOMEDICAL RESEARCH LABORATORY             | 2,962                      | 0,596   | 2,188   | 0,330   | 18   | 6     | 5              | 1     | 0   | 1    |       |      |
| BLOOD RESEARCH LABORATORY                  | 1,848                      | 1,848   | 0,818   | 0,818   | 17   | 12    | 3              | 0     | 5   | 3    |       |      |
| CIVIL ENGINEERING LABORATORY               | 14,312                     | 9,536   | 11,571  | 7,261   | 15   | 300   | 1              | 30    | 9   | 9    | 166   |      |
| CLOTHING AND TEXTILE RESEARCH UNIT         | 1,518                      | 1,341   | 0,691   | 0,691   | 1    | 60    | 0              | 1     | 1   | 1    | 33    |      |
| COASTAL SYSTEMS LABORATORY                 | 32,227                     | 23,928  | 24,664  | 17,340  | 115  | 631   | 1              | 23    | 13  | 13   | 286   |      |
| DENTAL RESEARCH INSTITUTE*NTC              | 0,975                      | 0,975   | 0,5*0   | 0,540   | 25   | 16    | 9              | 3     | 11  | 6    |       |      |
| ELECTRONICS LABORATORY CENTER              | 80,289                     | 51,040  | 55,142  | 34,945  | 24   | 1433  | 3              | 65    | 30  | 30   | 805   |      |
| ENVIRONMENTAL PREDICTION RESEARCH FACILITY | 2,620                      | 1,477   | 2,302   | 1,226   | 14   | 41    | 1              | 1     | 1   | 1    | 4     |      |
| HEALTH RESEARCH CENTER                     | 2,628                      | 2,628   | 2,057   | 2,057   | 32   | 73    | 10             | 11    | 13  | 13   | 28    |      |
| MEDICAL FIELD RESEARCH LABORATORY          | 1,177                      | 1,147   | 0,800   | 0,785   | 20   | 30    | 2              | 1     | 3   | 3    | 4     |      |
| MEDICAL RESEARCH INSTITUTE                 | 12,721                     | 12,721  | 10,035  | 10,035  | 221  | 210   | 62             | 45    | 221 | 92   |       |      |
| MEDICAL RESEARCH UNIT NJ. 2                | 2,551                      | 2,551   | 1,892   | 1,892   | 32   | 4     | 6              | 1     | 20  | 3    |       |      |
| MEDICAL RESEARCH UNIT NO. 3                | 1,455                      | 1,455   | 1,100   | 1,100   | 25   | 217   | 5              | 3     | 9   | 9    | 23    |      |
| MEDICAL RESEARCH UNIT NO. 5                | 0,966                      | 0,966   | 0,607   | 0,607   | 19   | 58    | 3              | 3     | 4   | 3    | 6     |      |
| PERSONNEL RESEARCH & DEVELOPMENT CENTER    | 11,459                     | 7,515   | 8,369   | 5,232   | 27   | 270   | 1              | 67    | 21  | 196  |       |      |
| RESEARCH LABORATORY                        | 181,151                    | 155,114 | 141,364 | 115,327 | 133  | 3507  | 0              | 507   | 34  | 34   | 1524  |      |
| SUBMARINE MEDICAL RESEARCH CENTER          | 115,339                    | 93,669  | 83,294  | 63,660  | 70   | 2771  | 1              | 125   | 17  | 1221 |       |      |
| SURFACE WEAPONS CENTER                     | 2,077                      | 2,077   | 1,653   | 1,653   | 32   | 60    | 6              | 11    | 8   | 8    | 29    |      |
| UNDERSEA CENTER                            | 244,601                    | 124,532 | 174,938 | 81,702  | 128  | 5132  | 2              | 251   | 60  | 60   | 2264  |      |
| UNDERWATER RANGES DIRECTORATE              | 98,747                     | 57,857  | 69,764  | 43,402  | 280  | 1596  | 2              | 122   | 22  | 22   | 798   |      |
| UNDERWATER SYSTEMS CENTER                  | 20,891                     | 5,059   | 15,378  | 3,812   | 42   | 48    | 0              | 1     | 17  | 17   | 30    |      |
| WEAPONS CENTER                             | 177,108                    | 101,658 | 69,442  | 49,739  | 104  | 3019  | 1              | 96    | 27  | 27   | 1592  |      |
| CHINA LAKE, CA                             | 217,344                    | 125,047 | 125,055 | 79,300  | 516  | 4366  | 0              | 138   | 49  | 49   | 1482  |      |
| TOTALS                                     | 1519,988                   | 908,512 | 960,059 | 600,280 | 2551 | 27995 | 148            | 1581  | 736 | 736  | 12176 |      |

TABLE 4A. NAVY REC FACILITIES DATA, FY 1976

| INSTALLATION                               | SPACE AND PROPERTY |                 |                 |                  |                         | COST (MILLIONS \$) |
|--|--------------------|-----------------|-----------------|------------------|-------------------------|--------------------|
|  | ACRES              | LABORATORY      | ADMIN           | OTHER            | REAL PROPERTY EQUIPMENT |                    |
| AEROSPACE MEDICAL RESEARCH LABORATORY      | 1                  | 212.000         | 46.500          | 12.000           | 3.130                   | 3.162              |
| AIR DEVELOPMENT CENTER                     | 750                | 833.000         | 43.000          | 451.000          | 25.585                  | 32.043             |
| AIR ENGINEERING CENTER                     | 7416               | 257.984         | 130.677         | 2278.739         | 82.981                  | 15.800             |
| ARCTIC RESEARCH LABORATORY                 | 4973               | 40.800          | 5.800           | 209.400          | 30.587                  | 19.413             |
| BIOMEDICAL RESEARCH LABORATORY             | 5                  | 64.700          | 6.731           | 45.373           | 0.100                   | 3.000              |
| BLOOD RESEARCH LABORATORY                  | 1                  | 12.800          | 2.760           | 8.560            | 0.500                   | 0.715              |
| CIVIL ENGINEERING LABORATORY               | 22                 | 120.352         | 23.977          | 51.543           | 2.055                   | 2.780              |
| CLOTHING AND TEXTILE RESEARCH UNIT         | 2                  | 10.000          | 7.000           | 3.000            | 0.400                   | 0.767              |
| COASTAL SYSTEMS LABORATORY                 | 682                | 299.133         | 35.198          | 307.423          | 29.871                  | 13.214             |
| ORAL RESEARCH INSTITUTE-NTC                | 0                  | 11.780          | 10.174          | 9.487            | 0.000                   | 0.645              |
| ELECTRONICS LABORATORY CENTER              | 1548               | 461.049         | 122.732         | 85.324           | 16.224                  | 55.131             |
| ENVIRONMENTAL PREDICTION RESEARCH FACILITY | 0                  | 1.808           | 5.012           | 10.490           | 0.000                   | 0.974              |
| HEALTH RESEARCH CENTER                     | 1                  | 11.177          | 4.500           | 0.000            | 1.880                   | 0.267              |
| MEDICAL FIELD RESEARCH LABORATORY          | 0                  | 29.816          | 8.655           | 19.381           | 0.000                   | 0.466              |
| MEDICAL RESEARCH INSTITUTE                 | 4                  | 133.495         | 12.945          | 39.547           | 4.122                   | 6.540              |
| MEDICAL RESEARCH UNIT NO. 2                | 2                  | 32.882          | 16.075          | 48.364           | 0.101                   | 0.681              |
| MEDICAL RESEARCH UNIT NO. 3                | 3                  | 26.165          | 8.288           | 34.747           | 1.075                   | 0.776              |
| MEDICAL RESEARCH UNIT NO. 5 (ETHIOPIA)     | 0                  | 5.096           | 1.587           | 0.645            | 0.000                   | 0.239              |
| PERSONNEL RESEARCH & DEVELOPMENT CENTER    | 1                  | 49.300          | 4.900           | 0.000            | 0.302                   | 1.490              |
| RESEARCH LABORATORY                        | 699                | 2140.804        | 236.893         | 594.454          | 82.746                  | 77.869             |
| SHIP RESEARCH AND DEVELOPMENT CENTER       | 322                | 388.522         | 192.814         | 1405.876         | 71.138                  | 44.766             |
| SUBMARINE MEDICAL RESEARCH LABORATORY      | 1                  | 23.325          | 6.441           | 13.118           | 1.071                   | 1.505              |
| SURFACE WEAPONS CENTER                     | 5380               | 897.833         | 259.161         | 1569.511         | 90.663                  | 66.292             |
| UNDERSEA CENTER                            | 37398              | 516.055         | 96.935          | 390.049          | 50.018                  | 49.679             |
| UNDERWATER RANGES DIRECTORATE              | 1042               | 67.000          | 11.173          | 266.044          | 23.575                  | 1.175              |
| UNDERWATER SYSTEMS CENTER                  | 314                | 842.244         | 107.528         | 532.378          | 35.202                  | 39.285             |
| WEAPONS CENTER                             | 1793634            | 101.020         | 351.595         | 5735.192         | 221.995                 | 79.717             |
| <b>TOTALS</b>                              | <b>1154201</b>     | <b>7590.220</b> | <b>1767.051</b> | <b>14120.645</b> | <b>775.321</b>          | <b>518.391</b>     |

TABLE 5A: AIR FORCE R&D LABORATORIES, PROGRAM AND PERSONNEL DATA, FY 1976

| FUNDING DATA (MILLIONS \$) | PERSONNEL DATA  |                |                |                |             |                          |
|----------------------------|-----------------|----------------|----------------|----------------|-------------|--------------------------|
|                            | INSTALLATION    | TOTAL          | INHOUSE        | ROTC           | MIL         | CIV                      |
| WPAFB, OH                  | 61.350          | 11.426         | 60.401         | 10.477         | 49          | 354                      |
| EGLIN AFB, FL              | 530.109         | 173.591        | 98.508         | 33.009         | 4,379       | 2900                     |
| WPAFB, OH                  | 128.372         | 18.638         | 125.294        | 15.560         | 179         | 821                      |
| TYNDALL AFB FL             | 8.757           | 4.234          | 4.137          | 0.414          | 189         | 27                       |
| WPAFB, OH                  | 93.655          | 31.391         | 89.589         | 27.931         | 199         | 854                      |
| USAF ACADEMY, CO.          | 1.244           | 1.082          | 0.793          | 0.631          | 22          | 9                        |
| HANSCOM AFB, MS.           | 61.067          | 23.317         | 55.831         | 21.024         | 120         | 509                      |
| BROOKS AFB, TX.            | 14.994          | 7.311          | 13.242         | 5.559          | 125         | 230                      |
| WPAFB, OH                  | 66.252          | 16.072         | 41.921         | 14.638         | 53          | 345                      |
| EDWARDS AFB, CA.           | 33.314          | 13.947         | 29.093         | 11.631         | 177         | 264                      |
| GRIFFISS AFB, N.Y.         | 164.490         | 20.000         | 57.674         | 15.124         | 237         | 1203                     |
| BROOKS AFB, TX.            | 20.574          | 19.033         | 10.185         | 8.715          | 392         | 285                      |
| KIRTLAND AFB, N.M.         | 112.457         | 30.312         | 99.663         | 17.707         | 682         | 459                      |
| WPAFB, OH                  | 16.062          | 8.186          | 12.712         | 4.836          | 133         | 158                      |
| <b>TOTALS</b>              | <b>1312.697</b> | <b>378.740</b> | <b>699.023</b> | <b>187.256</b> | <b>6936</b> | <b>8418 365 454 2569</b> |

TABLE 6A. AIR FORCE R&amp;D FACILITIES DATA, FY 1976

| INSTALLATION       | SPACE AND PROPERTY<br>SPACE (THOUSANDS OF SQUARE FEET) |                 |                 | COST (MILLIONS \$) |
|--------------------|--|-----------------|-----------------|--------------------|
|                    | ACRES  | LABORATORY      | ADMIN           |                    |
| WPAFB, OH          | 40   | 227.103         | 32.999          | 390.434            |
| EGIN AFB, FL       | 466248   | 131.555         | 553.506         | 9060.802           |
| WPAFB, OH          | 230  | 229.901         | 12.152          | 412.829            |
| TYNDALL AFB, FL    | 760  | 10.136          | 22.391          | 27.612             |
| WPAFB, OH          | 90   | 497.000         | 161.820         | 258.269            |
| USAF ACADEMY, CO.  | 0  | 9.900           | 2.800           | 0.240              |
| HANSCOM AFB, MA    | 269  | 422.418         | 14.813          | 31.383             |
| BROOKS AFB, TX     | 13   | 69.511          | 35.654          | 36.582             |
| WPAFB, OH          | 15   | 222.809         | 25.169          | 111.156            |
| EDWARDS AFB, CA    | 72560  | 419.046         | 86.848          | 4.780              |
| GRIFFISS AFB, N.Y. | 1494   | 802.827         | 83.496          | 128.713            |
| BROOKS AFB, TX     | 74   | 360.655         | 77.980          | 48.737             |
| KITTLAND AFB, N.M. | 702  | 531.810         | 123.071         | 125.495            |
| WPAFB, OH          | 30   | 223.459         | 10.000          | 16.880             |
| <b>TOTALS</b>      | <b>540525</b>  | <b>4158.120</b> | <b>1242.699</b> | <b>10653.912</b>   |
|                    |  |                 |                 | <b>490.054</b>     |
|                    |  |                 |                 | <b>817.693</b>     |

TABLE 7A. DEPARTMENT OF DEFENSE ROTC FACILITIES DATA, FY 1976

| INSTALLATION   | SPACE AND PROPERTY |       |                                  | COST (MILLIONS \$)                           |
|--|--------------------|-------|----------------------------------|--|
|  | REAL<br>PROPERTY   | ACRES | SPACE (THOUSANDS OF SQUARE FEET) |  |
| ARMED FORCES RADIONICROLOGY RES. INSTITUTE<br>BETHESDA, MD | ACRES LABORATORY   | 10    | 42.335                           | ADMIN 21.049<br>COTHER 42.330<br>7.910 3.579 |
| TOTALS   |                    | 10    | 42.335                           | 21.049 42.330 7.910 3.579                    |

TABLE 8 - ARMY RESEARCH AND DEVELOPMENT LABORATORY ORGANIZATIONAL RELATIONSHIPS

|   | <u>COMMAND CHAIN</u>     | <u>COMMAND</u>              |
|---|--------------------------|-----------------------------|
|   | <u>INTERMEDIATE</u>      |                             |
| AEROMEDICAL RESEARCH LABORATORY               | MEDICAL R&D COMMAND      | THE SURGEON GENERAL         |
| AIR MOBILITY RESEARCH AND DEVELOPMENT LABS    | AVIATION SYSTEMS COMMAND | ARMY MAT. DEV. & READ. CMD. |
| ATMOSPHERIC SCIENCES LABORATORY               | ELECTRONICS COMMAND      | ARMY MAT. DEV. & READ. CMD. |
| AVIONICS LABORATORY                           | ELECTRONICS COMMAND      | ARMY MAT. DEV. & READ. CMD. |
| BALLISTICS RESEARCH LABORATORIES              | --                       | ARMY MAT. DEV. & READ. CMD. |
| BENET WEAPONS LABORATORY                      | ARMAMENT COMMAND         | ARMY MAT. DEV. & READ. CMD. |
| COLD REGIONS R&E LABORATORY                   | --                       | CHIEF OF ENGINEERS          |
| COMBAT SURVEILLANCE & TARGET ACQUISITION LABS | ELECTRONICS COMMAND      | ARMY MAT. DEV. & READ. CMD. |
| COMMUNICATIONS ADP LABORATORY                 | ELECTRONICS COMMAND      | ARMY MAT. DEV. & READ. CMD. |
| CONSTRUCTION ENGINEERING RESEARCH LABORATORY  | --                       | CHIEF OF ENGINEERS          |
| EDGEWOOD ARSENAL LABORATORIES                 | ARMAMENT COMMAND         | ARMY MAT. DEV. & READ. CMD. |
| ELECTRONIC WARFARE LABORATORY                 | ELECTRONICS COMMAND      | ARMY MAT. DEV. & READ. CMD. |
| ELECTRONICS TECHNOLOGY & DEVICES LABORATORY   | ELECTRONICS COMMAND      | ARMY MAT. DEV. & READ. CMD. |
| ENGINEER TOPOGRAPHIC LABORATORIES             | --                       | CHIEF OF ENGINEERS          |
| ENGINEER WATERWAYS EXPERIMENT STATION         | ARMAMENT COMMAND         | ARMY MAT. DEV. & READ. CMD. |
| FRANKFORD ARSENAL LABORATORIES                | --                       | ARMY MAT. DEV. & READ. CMD. |
| HARRY DIAMOND LABORATORIES                    | --                       | ARMY MAT. DEV. & READ. CMD. |
| HUMAN ENGINEERING LABORATORY                  | MEDICAL R&D COMMAND      | THE SURGEON GENERAL         |
| INSTITUTE OF DENTAL RESEARCH                  | MEDICAL R&D COMMAND      | THE SURGEON GENERAL         |
| INSTITUTE OF SURGICAL RESEARCH                | MEDICAL R&D COMMAND      | THE SURGEON GENERAL         |
| LETTERMAN ARMY INSTITUTE OF RESEARCH          | --                       | ARMY MAT. DEV. & READ. CMD. |
| MATERIALS AND MECHANICS RESEARCH CENTER       | MEDICAL R&D COMMAND      | THE SURGEON GENERAL         |
| MEDICAL BIOENGINEERING R&D LABORATORY         | MEDICAL R&D COMMAND      | ARMY MAT. DEV. & READ. CMD. |
| MEDICAL RESEARCH INST. OF INFECTIOUS DISEASES | MISSILE COMMAND          | THE SURGEON GENERAL         |
| MISSILE R&E LABORATORY                        | --                       | ARMY MAT. DEV. & READ. CMD. |
| MOBILITY EQUIPMENT R&D COMMAND                | --                       | ARMY MAT. DEV. & READ. CMD. |
| MOBILITY SYSTEMS LABORATORY                   | TANK-AUTOMOTIVE COMMAND  | ARMY MAT. DEV. & READ. CMD. |
| NATICK R&D COMMAND                            | --                       | ARMY MAT. DEV. & READ. CMD. |
| NIGHT VISION LABORATORY                       | ELectronics COMMAND      | ARMY MAT. DEV. & READ. CMD. |

TABLE 8 - ARMY RESEARCH AND DEVELOPMENT LABORATORY ORGANIZATIONAL RELATIONSHIPS

|  | <u>COMMAND CHAIN</u>   | <u>COMMAND</u>  |
|--|--|---|
|  | <u>INTERMEDIATE</u>  |   |
| PICATINNY ARSENAL LABORATORIES<br>RES. INST. FOR BEHAVIORAL & SOCIAL SCIENCES  | ARMAMENT COMMAND<br>--   | ARMY MAT. DEV. & READ. CMD.<br>DEPUTY CHIEF OF STAFF FOR<br>PERSONNEL     |
| RESEARCH INSTITUTE OF ENVIRONMENTAL MEDICINE<br>* ROCK ISLAND ARSENAL LABORATORIES<br>WALTER REED ARMY INSTITUTE OF RESEARCH | MEDICAL R&D COMMAND<br>ARMAMENT COMMAND<br>MEDICAL R&D COMMAND | THE SURGEON GENERAL<br>ARMY MAT. DEV. & READ. CMD.<br>THE SURGEON GENERAL |

\* ABOLISHED 31 JAN 1977. NO DATA AVAILABLE FOR FY 76.

TABLE 9 - NAVY RESEARCH AND DEVELOPMENT LABORATORY ORGANIZATIONAL RELATIONSHIPS

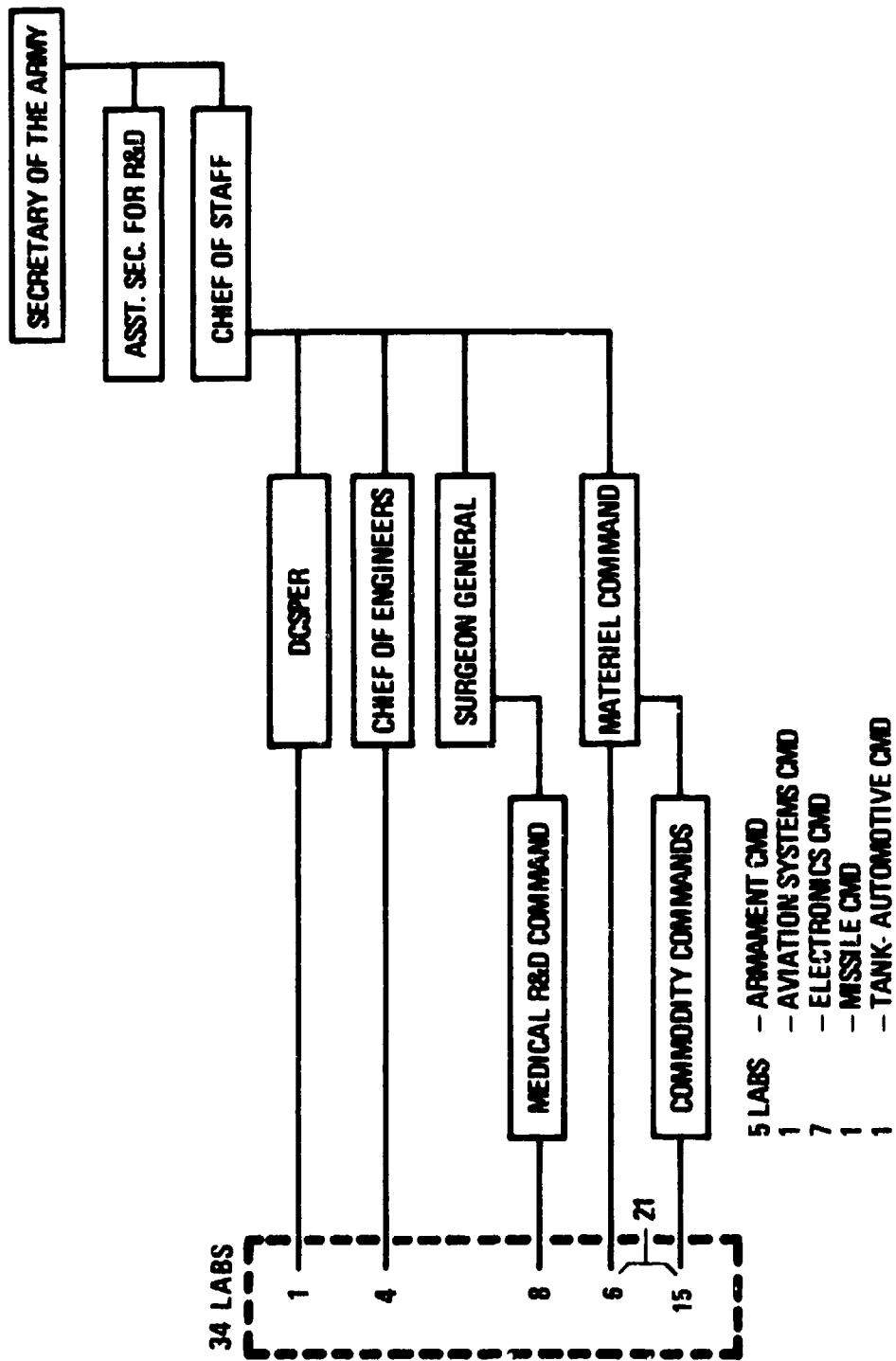
| <u>COMMAND CHAIN</u>                       | <u>COMMAND</u>            |
|--|---------------------------|
| <u>INTERMEDIATE</u>                        |                           |
| AEROSPACE MEDICAL RESEARCH LABORATORY      | --                        |
| AIR DEVELOPMENT CENTER                     | --                        |
| AIR ENGINEERING CENTER                     | --                        |
| ARCTIC RESEARCH LABORATORY                 | NAVAL AIR SYSTEMS COMMAND |
| BIOMEDICAL RESEARCH LABORATORY             | --                        |
| BLOOD RESEARCH LABORATORY                  | --                        |
| CIVIL ENGINEERING LABORATORY               | NAVAL FAC ENG COMMAND     |
| CLOTHING AND TEXTILE RESEARCH UNIT         | NAVAL SUPPLY SYS COMMAND  |
| COASTAL SYSTEMS LABORATORY                 | --                        |
| DENTAL RESEARCH INSTITUTE, NTC             | --                        |
| ELECTRONICS LABORATORY CENTER              | --                        |
| ENVIRONMENTAL PREDICTION RESEARCH FACILITY | NAVAL AIR SYSTEMS COMMAND |
| HEALTH RESEARCH CENTER                     | --                        |
| MEDICAL FIELD RESEARCH LABORATORY          |                           |
| MEDICAL RESEARCH INSTITUTE                 | --                        |
| MEDICAL RESEARCH UNIT NO. 2                | CHIEF, BUR OF MED/SUR     |
| MEDICAL RESEARCH UNIT NO. 3                | CHIEF, BUR OF MED/SUR     |
| MEDICAL RESEARCH UNIT NO. 5                | CHIEF, BUR OF MED/SUR     |
| PERSONNEL RESEARCH & DEVELOPMENT CENTER    | CHIEF, BUR OF MED/SUR     |
| RESEARCH LABORATORY                        | --                        |
| SHIP RESEARCH AND DEVELOPMENT CENTER       | --                        |
| SUBMARINE MEDICAL RESEARCH LABORATORY      | CHIEF, BUR OF MED/SUR     |
| SURFACE WEAPONS CENTER                     | CHIEF, BUR OF MED/SUR     |
| UNDERSEA CENTER                            | CHIEF, BUR OF MED/SUR     |
| UNDERWATER RANGES DIRECTORATE              | CHIEF, BUR OF MED/SUR     |
| UNDERWATER SYSTEMS CENTER                  | CHIEF, BUR OF MED/SUR     |
| WEAPONS CENTER                             | --                        |

TABLE 1C AIR FORCE RESEARCH AND DEVELOPMENT LABORATORY ORGANIZATIONAL RELATIONSHIPS

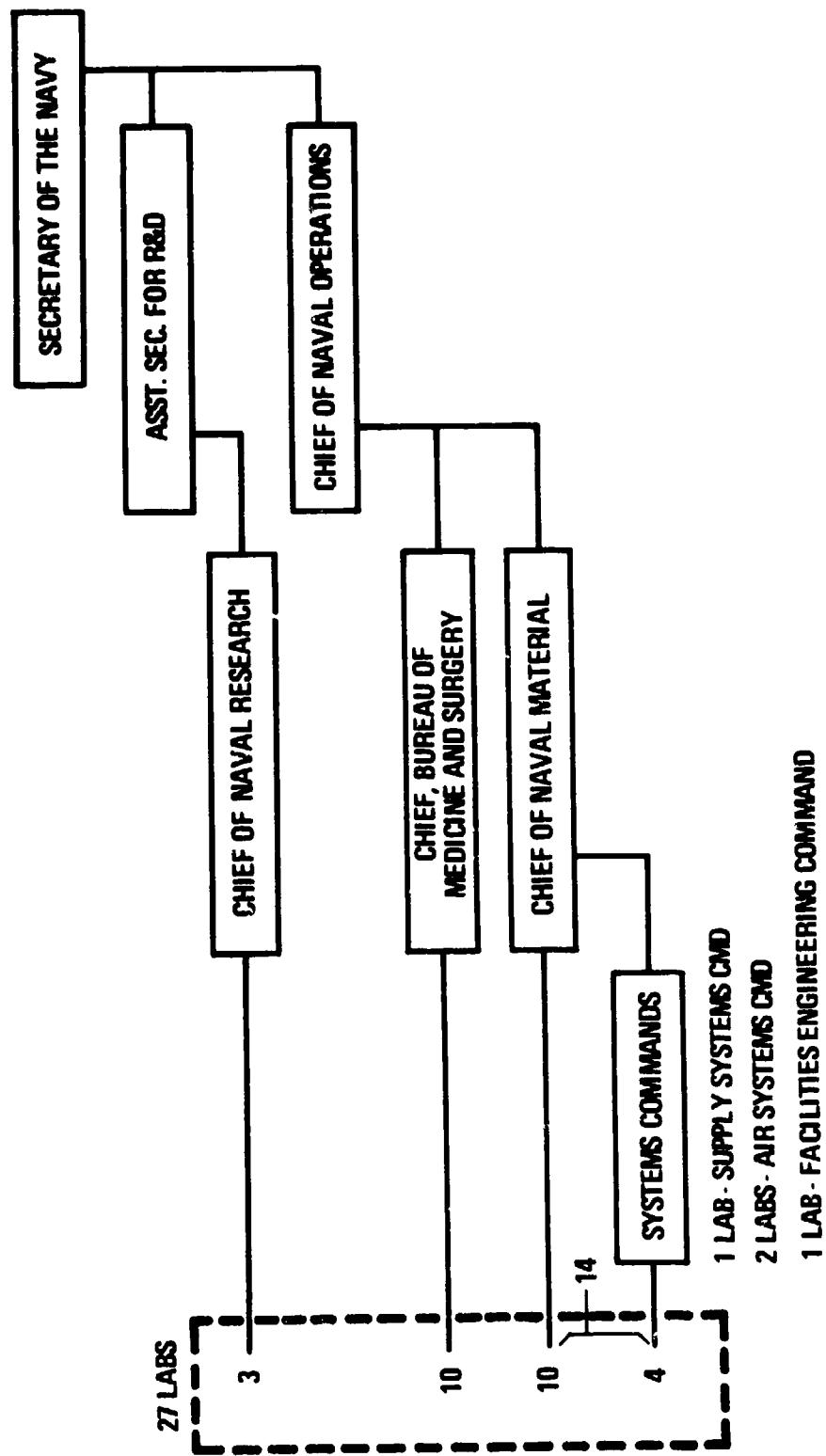
|  | COMMAND CHAIN                | COMMAND            |
|--|------------------------------|--------------------|
|  | INTERMEDIATE                 |                    |
| AEROPROPULSION LABORATORY                  | AF WRIGHT AERONAUTICAL LABS  | AF SYSTEMS COMMAND |
| *ARMAMENT LABORATORY                       | ARMAMENT DEV & TEST CENTER   | AF SYSTEMS COMMAND |
| AVIONICS LABORATORY                        | AF WRIGHT AERONAUTICAL LABS  | AF SYSTEMS COMMAND |
| AIR FORCE GEOPHYSICS LABORATORY            | --                           | AF SYSTEMS COMMAND |
| FLIGHT DYNAMICS LABORATORY                 | AF WRIGHT AERONAUTICAL LABS  | AF SYSTEMS COMMAND |
| FRANK J. SEILLER RESEARCH LABORATORY       | AF OFFICE OF SCIENTIFIC RES. | AF SYSTEMS COMMAND |
| HUMAN RESOURCES LABORATORY                 | --                           | AF SYSTEMS COMMAND |
| MATERIALS LABORATORY                       | AF WRIGHT AERONAUTICAL LABS  | AF SYSTEMS COMMAND |
| ROCKET PROPULSION LABORATORY               | --                           | AF SYSTEMS COMMAND |
| ROME AIR DEVELOPMENT CENTER                | ELECTRONIC SYSTEMS DIVISION  | AF SYSTEMS COMMAND |
| SCHOOL OF AEROSPACE MEDICINE               | AEROSPACE MEDICAL DIVISION   | AF SYSTEMS COMMAND |
| WEAPONS LABORATORY                         | --                           | AF SYSTEMS COMMAND |
| 6570 AEROSPACE MEDICAL RESEARCH LABORATORY | AEROSPACE MEDICAL DIVISION   | AF SYSTEMS COMMAND |

\* Laboratory portion not reported separately in this report. (For Armament Laboratory, see Armament Development and Test Center.)

## ARMY LABORATORIES COMMAND CHAIN

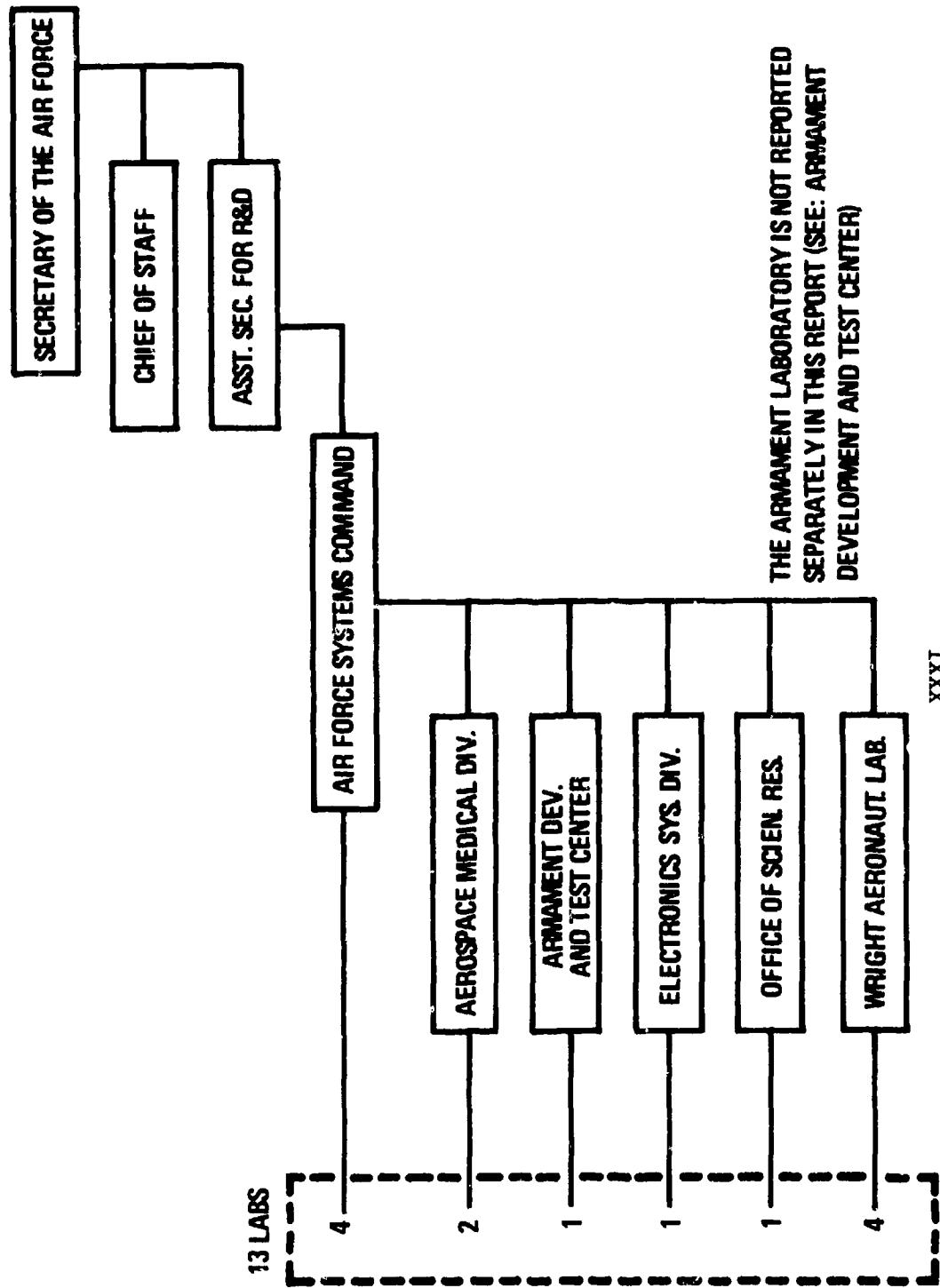


# NAVY LABORATORIES COMMAND CHAIN



XXX

# AIR FORCE LABORATORIES COMMAND CHAIN



INSTALLATION: AEROMEDICAL RESEARCH LABORATORY

FT.RUCKER AL

CDR COL ROBERT W. BAILEY

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 2.303            | 2.202               |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL OEM             | 0.000            | 0.000               |
| TOTAL OTHER           | 1.062            | 1.027               |
| TOTAL ANNUAL LAB      | 3.365            | 3.229               |
| TOTAL INHOUSE         | 3.365            | 3.229               |
| TOTAL INHOUSE RDT&E   | 2.303            | 2.202               |
| ANNUAL OPERATING COST | 1.055            | 1.066               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 58                     | 17            | 23            | 35           |
| CIVILIAN  | 57                     | 6             | 17            | 40           |
| TOTAL     | 115                    | 23            | 40            | 75           |

| ACRES | SPACE AND PROPERTY               |       |        | COST (MILLION \$) |       |           |
|-------|----------------------------------|-------|--------|-------------------|-------|-----------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB   | ADMIN  | OTHER             | TOTAL | REAL PROP |
| 10    | 52.747                           | 7.797 | 23.772 | 84.316            | 0.884 | 7.400     |

...MISSION

TO CONDUCT STUDIES OF ARMY AVIATION AND AIRBORNE OPER MED PROB, TO PROVIDE CONSULT SERV AS APPROP TO OTH ELEMENTS OF ARMY, AND PERF RSCH ON SENSORY PHYSIOLOGY REL TO EFF OF VIS AND AUDITORY STIMULI, ACCELERATION AND DECELERATION, AND OTH PHYSICAL FORCES ON SOLDIER'S MIL PERFORMANCE.

...CURRENT IMPORTANT PROGRAMS

MEDICAL RESEARCH APPLIED TO THE PROBLEMS IN ARMY AVIATION. RSCH PSYCHOLOGY APPLIED TO MEDICALLY SIGNIFICANT PROBLEMS IN ARMY AVIATION. RSCH OF PSYCHOACOUSTICAL PROBLEMS MEDICALLY SIGNIFICANT TO ARMY AVIATION. DIRECT FIELD RSCH SUPPORT TO IMMEDIATE ARMY AEROMEDICAL PROBLEMS. RSCH OF VISUAL PROBLEMS MEDICALLY SIGNIFICANT TO ARMY AVIATION.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

MAJOR EQUIPMENT INCLUDES A SOUNDPROOF HEARING ROOM, ANECHOIC CHAMBER, COLORIMETER, ECG AND EEG MACHINES, TECHICON AUTOANALYZER, MASS SPECTROMETER, 3 DEGREE OF FREEDOM CLOSED LOOP SERVOHYDRAULIC HELICOPTER SEAT MOUNTED SIMULATOR, SEQUENTIAL MULTIPLE ANALYZER-COMPUTERIZED, PHOTOMETRY LABORATORY, AIRBORNE MONITORING EQUIP, BIOCHEMISTRY LAB, ELECTRONICS AND ENGINEERING FABRICATION SHOP, AND PHOTOGRAPHY LABORATORY.

INSTALLATION: AIR DEFENSE BOARD

EL PASO, TEXAS

PRES COL GEORGE R. GILEO

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MIL \$) |                     |
|-----------------------|--------------------------------------|---------------------|
|                       | 1976<br>(ACTUAL)                     | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 2.477                                | 2.328               |
| TOTAL PROCUREMENT     | 0.195                                | 0.070               |
| TOTAL D&M             | 0.359                                | 0.088               |
| TOTAL OTHER           | 1.761                                | 1.890               |
| TOTAL ANNUAL LAB      | 4.792                                | 4.376               |
| TOTAL INHOUSE         | 4.792                                | 4.376               |
| TOTAL INHOUSE RDT&E   | 2.477                                | 2.328               |
| ANNUAL OPERATING COST | 0.395                                | 0.387               |

| PERSONNEL | PERSONNEL DATA (END OF FY 1976) |               | TOTAL PROF | NON-PROF |
|-----------|---------------------------------|---------------|------------|----------|
|           | AUTHORIZED<br>STRENGTH          | TOTAL<br>PHDS |            |          |
| MILITARY  | 120                             | 0             | 26         | 94       |
| CIVILIAN  | 87                              | 0             | 12         | 75       |
| TOTAL     | 207                             | 0             | 38         | 169      |

| ACRES | SPACE AND PROPERTY               |        |        | COST (MILLION \$) |       |                 |
|-------|----------------------------------|--------|--------|-------------------|-------|-----------------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN  | OTHER             | TOTAL | REAL PROP EQUIP |
| 26    | 36.550                           | 36.646 | 30.114 | 103.310           | 1.895 | 8.218           |

...MISSION

PLAN, CONDUCT, & REPORT ON OPERATIONAL TEST I, OPERATIONAL TEST II, OPERATIONAL TEST III, & OTHER USER-TYPE TESTS OF AD WEAPON SYS, FIRE DISTRIBUTION SYS, ELECTRONIC COUNTER MEASURES & COUNTER-COUNTER MEASURES EQUIP & DEVICES & TARGET DEVICES. PARTICIPATE IN DT I, DT II & DT III.

...CURRENT IMPORTANT PROGRAMS

CONCEPT EVALUATION OF AIR DEFENSE DECOYS

EVALUATION OF HAWK PRODUCT IMPROVEMENT PROPOSALS

EVALUATION OF CHAPARRAL PRODUCT IMPROVEMENT PROPOSALS (IFF)

CONCEPT EVALUATION OF AIRCRAFT ENGAGEMENT TECHNIQUES FROM TANKS

CONCEPT EVALUATION OF NIKE-HERCULES IN THE SURFACE-TO-SURFACE ROLE

...FUNCTIONS/EQUIPMENT/CAPABILITIES

REVIEW & COMMENT ON TRAINING DEVICE REQUIREMENTS DOCUMENTS, ORGANIZATION PHASE DOCUMENTS, NEW EQUIPMENT TRAINING PACKAGES, & ASSIST IN REVIEW OF MILITARY SPECS. PROVIDE TRADOC TEST REQUIREMENTS FOR THE COORDINATED TEST PROGRAM. PLAN, DIRECT & CONTROL A PROGRAM IN TEST METHODOLOGY, TEST INSTRUMENTATION, & TEST FACILITIES NEEDED TO SUPPORT CURRENT & FUTURE TEST REQUIREMENTS WITHIN ASSIGNED MISSION AREA. SPT FIELD RESEARCH, STUDIES, TESTS, & OPERATIONS OF TRADOC, DA OR DOD AGENCIES AS REQUIRED & DIRECTED BY CG USA AIR DEFENSE CENTER & FORT BLISS.

EQUIPMENT: ACCESS TO COMPUTER, TAC & INSTRUMENTATION RADAR, AUTOMATED DATA ACQUISITION SYSTEMS, CINETHEDODCLITES, PHOTO LAP & FILM READING EQUIP. SITE MONITOR FOR ELECTRONIC TEST OF EQUIP & DATA ANALYSIS & NORTH MCGREGOR RANGES FOR FIRING FWD AREA WPNS AT TARGET DEVICES & DRONES

INSTALLATION: AIR MOBILITY R&D LABORATORY

MOUNTAIN VIEW, CAL.

DIR DR RICHARD C. CARLSON

DLR DIR COL JOHN B. FITCH

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL R&D&E           | 47.542           | 38.689              |
| TOTAL PROCUREMENT     | 0.698            | 0.396               |
| TOTAL O&M             | 0.204            | 1.000               |
| TOTAL OTHER           | 0.000            | 0.000               |
| TOTAL ANNUAL LAB      | 48.444           | 40.085              |
| TOTAL INHOUSE         | 13.950           | 15.575              |
| TOTAL INHOUSE R&D&E   | 13.950           | 15.575              |
| ANNUAL OPERATING COST | 0.582            | 0.589               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 27                     | 2             | 17            | 10           |
| CIVILIAN  | 586                    | 28            | 276           | 310          |
| TOTAL     | 613                    | 30            | 293           | 320          |

| ACRES | SPACE AND PROPERTY |        |        | COST (MILLION \$) |           |       |
|-------|--------------------|--------|--------|-------------------|-----------|-------|
|       | LAB                | ADMIN  | OTHER  | TOTAL             | REAL PROP | EQUIP |
| 108   | 85.014             | 43.308 | 15.584 | 143.906           | 1.474     | 5.470 |

...MISSION

MANAGES AND EXECUTES R&D OF ARMY AIRMOBILE SYSTEMS, THROUGH DEMONSTRATION OF TECHNOLOGY. PROVIDES TECHNICAL SUPPORT TO PROJECT/PRODUCT MANAGERS & SYSTEM DEVELOPERS AS REQUIRED. PROVIDES INDEPENDENT TECHNICAL RISK ASSESSMENT TO CG USAAVSCOM AND HIGHER AUTHORITY.

...CURRENT IMPORTANT PROGRAMS

RESEARCH IN FUNDAMENTAL R&D OF AIRMOBILE SYSTEMS, DYNAMICS & NOISE.

RESEARCH & DEVELOPMENT OF SMALL GAS TURBINES.

R&D TO IMPROVE RELIABILITY & MAINTAINABILITY OF AIRMOBILE SYSTEMS.

RSCH. COMPOSITES & MEASUR. CPNL. FLT. LEADS TO IMPROVE STRUCTURES FOR A/C. EVOLVE TECHNOLOGY & CRITERIA TO IMPROVE FLIGHT SAFETY & SURVIABILITY.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

THREE DIRECTORATES AT MOFFETT FIELD CA, CLEVELAND OH, HAMPTON VA; LOCATED WITH NASA, PARTICIPATING IN RESEARCH OF AIRMOBILE SYSTEMS & DISCIPLINES, JOINTLY USING WIND TUNNELS, SIMULATORS & LABORATORY TEST FACILITIES, INCLUDING SHOPS, FLIGHT LINE & HANGER, STRUCTURE LAB, ENGINE TEST FACILITIES & COMPUTATIONAL EQUIPMENT. FOURTH DIRECTORATE AT FORT EUSTIS VA., PERFORMING ADVANCED APPLICATIONS WORK. MAJOR EQUIPMENT & FACILITIES: FILAMENT WINDING MACHINES, TENSILE TESTERS, VIBRATION TESTER, SMALL BALLISTIC RANGE, CALIBRATION LAB, ENVIRONMENT CHAMBER, ATOMIC ABSORPTION SPECTR, TELEMEETER GROUND STATION, NON-DESTRUCT TESTING FACILITY, FLIGHT SAFETY LAB.

INSTALLATION: AIRBORNE COMMUNICATIONS & ELECTRONICS BOARD FT. BRAGG, N.C.

PRES. COL BRUCE E. WALLACE

ENGIN. ADV. MR. CHAS. SWAKINGEN

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 1.708                                    | 1.248               |
| TOTAL PROCUREMENT     | 0.000                                    | 0.000               |
| TOTAL O&M             | 0.140                                    | 0.219               |
| TOTAL OTHER           | 2.201                                    | 2.375               |
| TOTAL ANNUAL LAB      | 4.049                                    | 3.842               |
| <br>TOTAL INHOUSE     | 4.049                                    | 3.842               |
| TOTAL INHOUSE RDT&E   | 1.708                                    | 1.248               |
| ANNUAL OPERATING COST | 0.871                                    | 0.890               |

| PERSONNEL | AUTHORIZED<br>STRENGTH | PERSONNEL DATA (END OF FY 1976) |               | NON-<br>PROF |
|-----------|------------------------|---------------------------------|---------------|--------------|
|           |                        | TOTAL<br>PHDS                   | TOTAL<br>PROF |              |
| MILITARY  | 122                    | 0                               | 29            | 93           |
| CIVILIAN  | 52                     | 1                               | 11            | 41           |
| TOTAL     | 174                    | 1                               | 40            | 134          |

| ACRES | SPACE AND PROPERTY |        |        | COST (MILLION \$) |           |       |
|-------|--------------------|--------|--------|-------------------|-----------|-------|
|       | LAS                | ADMIN  | OTHEP  | TOTAL             | REAL PROP | EQUIP |
| 27    | 3.978              | 39.140 | 39.390 | 82.508            | 0.971     | 3.386 |

...MISSION

THE MISSION OF THE USAACED IS TO PLAN, CONDUCT AND REPORT ON OT I, II, AND III AND OTHER USER TYPE TESTS OF ABN, COMMUNICATIONS AND ELECTRONICS ITEMS THAT PERTAIN TO EQUIPMENT AND SYSTEMS.

FACILITIES INCLUDE: HANGAR BUILDING, COMMUNICATIONS-ELECTRONICS FACILITY

...CURRENT IMPORTANT PROGRAMS

OT III MILITARY SCURV SYSTEM  
TACTICAL SATELLITE COMMUNICATIONS MANPACK OT II  
AN/TSQ-84 UPGRADE COMM TECH CONTROL CENTER OT II  
STANDARD AIRDROP OF SELECTED ITEMS OF EQUIPMENT  
OT III MODULAR TELETYPEWRITER TERMINAL AN/UGC-74

...FUNCTIONS/EQUIPMENT/CAPABILITIES

CRYPTOGRAPHIC TEST FACILITY AND WOODWORK SHOP. MAJOR EQUIPMENT INCLUDES: 5-TON WRECKER, 40,000 POUND LEADER, 20-TON MOBILE CRANE, 2 T-28 B MODEL AIRCRAFT, 1 UH-1H HELICOPTER, VARIOUS TYPES OF STANDARD PARACHUTES, NINE GASOLINE DRIVE GENERATORS, 5 DIGITAL THEODOLITES, VARIOUS THERMOMETERS, STOPWATCHES, TACTICAL RADIO SETS, RADIO RECEIVERS, SIX TELETYPEWRITER SETS, OSCILLOGRAPH, ACCELEROMETERS, 11 SIGNAL GENERATORS, 9 MULTIMETERS, 1 FREQUENCY SYNTHESIZER, ONE RANDOM NOISE GENERATOR, SIX VOLT OHM METERS, FOUR OSCILLOSCOPES, NINE ATTNUATORS, 5 AC VOLTMETERS, 1 GRAPHIC LEVEL RECORDER, 2 TRANSISTOR TESTERS, 1 MILLAMETER, 2 FREQUENCY COUNTERS, 3 SOUND LEVEL METERS, SOUND LEVEL CALIBRATORS, METER CALIBRATORS, MEGOHMMETER, Q METER, CLOSED CIRCUIT VIDEO EQUIPMENT, 1 VAN METER, ANALOG TAPE RECORDER, VARIOUS MOTION PICTURE AND STILL CAMERAS.

INSTALLATION: ARCTIC TEST CENTER

FT. GREELY, AK.

COR COL JOHN M. FICKARTS

T&CH. DIR. MR. WILLIAM J. HASLEM

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 3.177            | 3.731               |
| TOTAL PROCUREMENT     | 0.030            | 0.008               |
| TOTAL G&M             | 0.000            | 0.000               |
| TOTAL OTHER           | 2.874            | 3.008               |
| TOTAL ANNUAL LAB      | 6.081            | 6.747               |
| <br>TOTAL INHOUSE     | <br>6.081        | <br>6.747           |
| TOTAL INHOUSE RDT&E   | 3.177            | 3.731               |
| ANNUAL OPERATING COST | 1.901            | 2.000               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 269                    | 0             | 60            | 209          |
| CIVILIAN  | 22                     | 0             | 9             | 13           |
| TOTAL     | 291                    | 0             | 69            | 222          |

SPACE AND PROPERTY

| ACRES  | SPACE (THOUSANDS OF SQUARE FEET) |         |         | COST (MILLION \$) |        |       |
|--------|----------------------------------|---------|---------|-------------------|--------|-------|
|        | LAB                              | ADMIN   | OTHR    | TOTAL             | REAL   | PROP  |
| 647155 | 5.100                            | 100.079 | 129.152 | 254.331           | 12.474 | 5.699 |

...MISSION

PLAN CONDUCT EVALUATE AND REPORT ON ENVIRON PHASES OF DEVELOPMENT TESTS  
EM LOY INTEGRATED TESTING CYCLE POLICIES DURING DEVELOPMENT TESTS-PROVID  
ADV AND GUIDANCE TO MATERIAL DEVELOPERS AT AL RE COLD REGIONS TEST/EVAL  
PROVIDE TEST SUPPORT TO DOD AND GOVERNMENT AGENCIES TAW CG TECOM DIREC

...CURRENT IMPORTANT PROGRAMS

STINGER (DEVELOPMENT)

XMI98 HOWITZER

PERSONNEL ARMOR

COMMON THERMAL NIGHT SIGHTS

HAND-HELD LASER RANGE-FINDER

...FUNCTIONS/EQUIPMENT/CAPABILITIES

FAC CAN ACCOMMODATE A WIDE VAR AND LARGE NU OF TEST ITEMS AT ANY ONE  
TIME. SEVERAL VEH TEST COURSES PLUS EXTENSIVE CROSS COUNTRY TEST-RAIN.  
RANGES ARE VERSATIL W 500K ACRE ISOLATED IMPACT AREA, 50KM MAX UNCHSERV  
RANGE, LARGE RESTRICTED AIRSPACE AREA W UNRESTRICTED FIRING TO 5000 FEET  
ORDINATE. COORD W LOCAL FAA CAN EFFECT UNRESTRICTED ORDINATE. 1ST 2ND HIR  
3RD ORDER SURVEY POINTS. GOOD SECONDARY RTADS. TEL AND NON-TAC RADIC AT  
ALL RANGES AND TEST SITES. AUTODIN FACSIMILE TELETYPE. PHOTO LAB. MAINT  
FOR MAJORITY OF EQUIP TQ INCL ACFT DS/GS CALIBRATION SERVICES. LIMITED  
ENGINEER SUPPORT UH1A ACFT AVAILABLE. AF SPT CAN BE ARRANGED. MET SPT  
AVAIL. INSTRUMENTS FOR MOST ITEMS ON HAND, CAN OBTAIN OTHER INSTRUMENTS.  
MOVING TARGET SYSTEM. REMOTE SARTS TARGET SYSTEM. ETC. STATISTICAL AND  
MAINT EVALUATION CAPABILITIES AVAIL. ADEQUATE COMPUTER FACILITIES.

INSTALLATION: ARMOR AND ENGINEER BOARD

FT. KNOX, KENTUCKY

PRES COL JIMMY L. PIGG

TECH DIR MR JAMES C. KELTON

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 1.967            | 3.519               |
| TOTAL PROCUREMENT     | 0.024            | 0.262               |
| TOTAL OEM             | 0.535            | 0.524               |
| TOTAL OTHER           | 5.700            | 6.044               |
| TOTAL ANNUAL LAB      | 8.226            | 10.349              |
| TOTAL INHOUSE         | 8.226            | 10.349              |
| TOTAL INHOUSE RDT&E   | 1.967            | 3.519               |
| ANNUAL OPERATING COST | 0.420            | 0.510               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 181                    | 0             | 176           | 5            |
| CIVILIAN  | 85                     | 1             | 11            | 74           |
| TOTAL     | 266                    | 1             | 187           | 79           |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |        |         | COST (MILLION \$) |           |       |
|-------|----------------------------------|--------|---------|-------------------|-----------|-------|
|       | LAB                              | ADMIN  | OTHER   | TOTAL             | REAL PROP | EQUIP |
| 6900  | 6.200                            | 54.455 | 151.508 | 212.163           | 1.419     | 2.345 |

...MISSION

PLAN, CONDUCT, & REPORT ON OT TESTS I, II, & III, FORCE DEV TEST & EXP CEP, TEA & OTHER USER-TYPE TEST OF ARM & ENGR EQ, AUTOMOTIVE SYS, ATOMIC DEMOLITION MUNITIONS & GEN EQUIP, FUEL HANDLING & STORAGE EQUIP. PROVIDE ADVICE & GUIDANCE TO DEVELOPER & OTHERS. CONDUCT TEST AS DIR. BY TRADOC.

...CURRENT IMPORTANT PROGRAMS

OPERATIONAL FEASIBILITY TEST, IMPROVED SUSPENSION SYSTEM, M60 SERIES TKS FOTE, TANK COMPANY TEAM NIGHT FIGHTING TEST  
OPERATIONAL TEST II, TACTICAL SURVEY METER, AN/VDR-1.  
FIELD EVALUATION OF M48A5 TANK PRODUCT IMPROVEMENTS.  
EMPLOYMENT OF SMOKE AS A DEFENSE AGAINST ANTITANK WEAPONS.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

USAARENBD MAJOR EQUIP: SIMFIRE INSTRUMENTATION SYSTEMS, OVERHEAD CRANE-40 TON; STILL & MOTION PICTURE PHOTO EQUIP; STATIONARY ELEVATED CAMERA PLATFORM FOR HEIGHTS UP TO 40 FT ABOVE ADJACENT GRADE; VIDEO TAPE RECORDER; TARGET LOCATING SYS; MOBILE DYNAMOMETER, WHICH MEASURES DRAW BAR PULL FROM 0 TO 100 TONS; TACTICAL WHLD BEHICLES; COMBAT VEHICLES; ENGR CONSTR EQUIP; MACHINE SHOP EQUIP & SHOP MAINTENANCE SETS.  
USAARENBD FACILITIES: 6900 ACRES AVAILABLE FOR TESTING; MC FARLAND-OLIVER RANGE (160 ACRES) WITH FIRING CAPABILITY OF UP TO 2000 METERS; ADDITIONAL RANGE, WITH FIRING CAPABILITIES UP TO 10,000 METERS, ON SPACE AVAILABLE BASIS; STILL WATER TEST AREA; 72,988 SQ FT.

INSTALLATION: ATMOSPHERIC SCIENCES LABORATORY

WHITE SANDS MR, N.M.

COR AND DIR. COL WILLIAM C. PETTY DEPUTY DIR. MR. HENRY RACHELE

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 13.073           | 13.223              |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL C&M             | 0.044            | 0.200               |
| TOTAL OTHER           | 0.057            | 0.000               |
| TOTAL ANNUAL LAB      | 13.174           | 13.423              |
| TOTAL INHOUSE         | 10.688           | 10.315              |
| TOTAL INHOUSE RDT&E   | 10.587           | 10.115              |
| ANNUAL OPERATING COST | 5.581            | 5.198               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 440                    | 0             | 22            | 418          |
| CIVILIAN  | 225                    | 14            | 104           | 121          |
| TOTAL     | 665                    | 14            | 126           | 539          |

| ACRES | SPACE AND PROPERTY               |       |       | COST (MILLION \$) |        |                 |
|-------|----------------------------------|-------|-------|-------------------|--------|-----------------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB   | ADMIN | OTHER             | TOTAL  | REAL PROP EQUIP |
| 45    | 51.000                           | 3.100 | 3.600 | 57.700            | 48.000 | 22.000          |

...MISSION

RESEARCH IN ATMOSPHERIC SCIENCES, DEVELOPMENT OF METEOROLOGICAL TECHNIQUES AND EQUIPMENT FOR FIELD ARMY. FURNISH METEOROLOGICAL SERVICES TO ARMY RDT&E ACTIVITIES. PROVIDE ADMIN AND LOGISTICAL SUPPORT TO OTHER ECOM ELEMENTS AT WHITE SANDS MISSILE RANGE, NEW MEXICO

...CURRENT IMPORTANT PROGRAMS

METEOROLOGICAL EQUIPMENT

AUTOMATIC METEOROLOGICAL SYSTEM

REMOTE SENSING

METEOROLOGICAL SATELLITES

METEOROLOGICAL SUPPORT TO RDT&E ACTIVITIES

...FUNCTIONS/EQUIPMENT/CAPABILITIES

METEOROLOGICAL RESEARCH FACILITY AND CAPABILITY

WIND TUNNEL FACILITY, LOW SPEED

ATMOSPHERIC PHYSICS RESEARCH FACILITY AND CAPABILITY

UPPER ATMOSPHERE RESEARCH AND SOUNDING ROCKET FACILITY AND CAPABILITY

ION MASS SPECTROMETER SYSTEM

METEOROLOGICAL SOUNDING ROCKET FACILITIES-N.M., UTAH, ALASKA, CANAL ZONE

REMOTE ATMOSPHERIC SENSING FIELD RESEARCH FACILITY

ATMOSPHERIC SPECTROSCOPY-LASER PROPAGATION FACILITY

METEOROLOGICAL RDT&E SUPPORT FACILITIES - ALASKA TO CANAL ZONE

METEOROLOGICAL INSTRUMENTATION TEST, MAINTENANCE, CALIBRATION FACILITY

FACILITY FOR SONIC OBSERVATION OF TRAJECTORY AND IMPACT OF MISSILES

SATELLITE CALIBRATION FACILITIES

INSTALLATIONS: AVIATION ENGINEERING FLIGHT ACTIVITY                    EDWARDS AFB CA

CDR. COL DENNIS M BOYLE                    TTECH DIR MR JAMES S. HAYDEN

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1975<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 4.030                                    | 3.845               |
| TOTAL PROCUREMENT     | 0.000                                    | 0.000               |
| TOTAL C&M             | 0.000                                    | 0.000               |
| TOTAL OTHER           | 0.000                                    | 0.000               |
| TOTAL ANNUAL LAB      | 4.030                                    | 3.845               |
| TOTAL INHOUSE         | 4.030                                    | 3.845               |
| TOTAL INHOUSE RDT&E   | 4.030                                    | 3.845               |
| ANNUAL OPERATING COST | 1.242                                    | 1.383               |

| PERSONNEL | PERSONNEL DATA (END OF FY 1976) |               | NON-<br>PROF |
|-----------|---------------------------------|---------------|--------------|
|           | AUTHORIZED<br>STRENGTH          | TOTAL<br>PHDS |              |
| MILITARY  | 56                              | 0             | 26           |
| CIVILIAN  | 104                             | 0             | 70           |
| TOTAL     | 160                             | 0             | 96           |

| ACRES | SPACE AND PROPERTY               |        |        | COST (MILLION \$) |       |                 |
|-------|----------------------------------|--------|--------|-------------------|-------|-----------------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN  | OTHER             | TOTAL | REAL PROP EQUIP |
| 19    | 4.280                            | 32.830 | 98.490 | 135.600           | 3.614 | 6.629           |

...MISSION

PLAN AND CONDUCT AIRWORTHINESS QUALIFICATION FLIGHT TESTS OF AIR VEHICLES DEVELOPED AND/OR PROCURED. AIRWORTHINESS EVAL OF VEHICLES PROPOSED FOR ARMY APPLICATION INCORPORATE ADVANCED CONCEPTS. PRODUCE DATA ACFT PERFS, STAB AND CONTROL. CONDUCT TEST PILOT ORIENTATION COURSE

...CURRENT IMPORTANT PROGRAMS

APE FOR IMPROVED ROTOR BLADE CCBRA TOW  
UTTAS ICING TEST  
AHIS FLAT PLATE EVAL  
XV-15 TILT ROTOR EVAL  
UTTAS AND AAH FOLLOW-ON

...FUNCTIONS/EQUIPMENT/CAPABILITIES

1F510 3T28B 1RU21D 1JCV1C 1JAH1G 1JCH47C 10H5RA 3JUH1H AND 9 TEST ACFT  
AIRCRAFT MAINT CAPABILITY  
AIRCRAFT MODIFICATION CAPABILITY  
EMR COMPUTER WITH TELEMETRY  
8AIRBORNE DATA ACQUISITION SYSTEMS  
3REMOTE GROUND STATIONS WITH COMPUTER AND TELEMETRY CAPABILITY  
LIMITED INSTRUMENTATION CAPABILITY  
12MILIKEN CAMERA VARIOUS SIZES  
1FAIRCHILD FLIGHT ANALYZER  
1MAGNETIC TAPE COMPOSER SYSTEM  
3MAGNETIC TAPE ELECTRIC TYPEWRITERS 2MAGCARD TYPEWRITERS  
2HEADLINER MODELS 850 AND 860

INSTALLATION: AVIATION TEST BOARD

FT. RUCKER, AL.

PRES COL ROBERT A. BONIFACIO

TECH DIR MR GEORGE E. SLAGLEY

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 6.141                                    | 0.000               |
| TOTAL PROCUREMENT     | 0.000                                    | 0.000               |
| TOTAL OEM             | 0.000                                    | 0.000               |
| TOTAL OTHER           | 0.000                                    | 0.000               |
| TOTAL ANNUAL LAB      | 6.141                                    | 0.000               |
| <br>TOTAL INHOUSE     | 5.931                                    | 0.000               |
| TOTAL INHOUSE RDT&E   | 5.931                                    | 0.000               |
| ANNUAL OPERATING COST | 0.210                                    | 0.000               |

| PERSONNEL | PERSONNEL DATA (END OF FY 1976) |               | TOTAL<br>PROF | NON-<br>PROF |
|-----------|---------------------------------|---------------|---------------|--------------|
|           | AUTHORIZED<br>STRENGTH          | TOTAL<br>PHDS |               |              |
| MILITARY  | 76                              | 0             | 20            | 56           |
| CIVILIAN  | 36                              | 1             | 7             | 29           |
| TOTAL     | 112                             | 1             | 27            | 85           |

| ACRES | SPACE AND PROPERTY               |        |         | COST (MILLION \$) |       |                 |
|-------|----------------------------------|--------|---------|-------------------|-------|-----------------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN   | OTHER             | TOTAL | REAL PROP EQUIP |
| 1189  | 2.440                            | 50.584 | 177.364 | 230.388           | 2.623 | 19.286          |

#### ...MISSION

MISSION: THE CONDUCT OF OPERATIONAL TEST I,II,III, FOR NON-MAJOR SYSTEMS AND OTHER TESTS AS DIRECTED BY HEADQUARTERS TRADOC. SPECIFICALLY, THE AVIATION BOARD DESIGNS AND CONDUCTS TESTING AND EVALUATION OF AVIATION SYSTEMS, SUBSYSTEMS AND ANCILLIARY EQUIPMENT

#### ...CURRENT IMPORTANT PROGRAMS

CH-47 OPERATIONAL FLIGHT TRAINER  
AIRCRAFT GEN PURP DISP XM-130  
COUNTERMEASURES SET FOR AH-1/UH-1 AND OH-58  
AN/APR-39(V)1 RECEIVER  
AH-1S MAIN ROTOR BLADE

#### ...FUNCTIONS/EQUIPMENT/CAPABILITIES

NO MAJOR EQUIPMENT OR FACILITY CAPABILITY

INSTALLATION: AVIONICS LABORATORY

FT MONMOUTH NJ

DIR COL DARWIN A PETERSEN

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 10.605           | 11.090              |
| TOTAL PROCUREMENT     | 3.461            | 4.718               |
| TOTAL O&M             | 2.018            | 2.006               |
| TOTAL OTHER           | 0.000            | 0.000               |
| TOTAL ANNUAL LAB      | 16.084           | 17.814              |
| TOTAL INHOUSE         | 11.382           | 9.770               |
| TOTAL INHOUSE RDT&E   | 7.195            | 6.023               |
| ANNUAL OPERATING COST | 4.013            | 4.033               |

| PERSONNEL | AUTHORIZED<br>STRENGTH | PERSONNEL DATA (END OF FY 1976) |      | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------------------------|------|---------------|--------------|
|           |                        | TOTAL                           | PHDS |               |              |
| MILITARY  | 12                     | 0                               |      | 6             | 6            |
| CIVILIAN  | 183                    | 4                               |      | 129           | 54           |
| TOTAL     | 195                    | 4                               |      | 135           | 60           |

| ACRES | SPACE AND PROPERTY               |        |       | COST (MILLION \$) |           |        |
|-------|----------------------------------|--------|-------|-------------------|-----------|--------|
|       | SPACE (THOUSANDS OF SQUARE FEET) |        |       | TOTAL             | REAL PROP | EQUIP  |
|       | LAB                              | ADMIN  | OTHER |                   |           |        |
| 0     | 25.742                           | 30.108 | 0.000 | 55.850            | 0.000     | 12.139 |

...MISSION

APPLIED RES DEV AND ENGRG IN ARMY AVIATION ELECTRONICS INCLUDING  
NAVIGATION, LANDING, COMMUNICATIONS, ENVIRONMENT SENSING CONTROL THEORY.  
AIRCRAFT ANTENNAS INSTRUMENTATION GROUND AND AIRBORNE SYSTEMS  
INSTALLATION AND TEST SYSTEMS ENGINEERING

...CURRENT IMPORTANT PROGRAMS

LOW LEVEL NIGHT OPERATIONS FOR ARMY AIRCRAFT

NATIONAL MICROWAVE LANDING SYSTEM

ABSOLUTE ALTIMETER

NAP OF THE EARTH COMMUNICATIONS SYSTEM

DIGITAL MODULAR AVIONICS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

TACTICAL AVIONICS SYSTEMS SIMULATOR

AIRCRAFT ANTENNA TEST FACILITY

FIXED BASE COCKPIT SIMULATOR UH-1

INSTRUMENTED C-47 AIRCRAFT FOR TESTING NAVIGATION SYSTEMS

GYRO TEST FACILITY

MOVING EARTH SIMULATOR FOR DOPPLER NAVIGATION TESTING

ELECTROMAGNETIC RADIATION TEST FACILITY

ELEVATED ROTABLE HELIPORT

ATMS DESIGN TEST CENTER

ENVIRONMENTAL VEHICAL FOR AVIONICS RESEARCH

INSTALLATION: BALLISTICS RESEARCH LABORATORIES

ABERDEEN PROV GR, MD.

DIR DR ROBERT J. EICHELBERGER

DEP DIR COL ROBERT M. GOMEZ

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 38.031                                   | 41.533              |
| TOTAL PROCUREMENT     | 1.560                                    | 0.000               |
| TOTAL OEM             | 0.443                                    | 0.120               |
| TOTAL OTHER           | 1.374                                    | 1.644               |
| TOTAL ANNUAL LAB      | 41.410                                   | 43.297              |
| <br>TOTAL INHOUSE     | 30.405                                   | 29.747              |
| TOTAL INHOUSE RDT&E   | 27.545                                   | 28.033              |
| ANNUAL OPERATING COST | 10.600                                   | 9.700               |

| PERSONNEL | AUTHORIZED<br>STRENGTH | PERSONNEL DATA (END OF FY 1976) |               | NON-<br>PROF |
|-----------|------------------------|---------------------------------|---------------|--------------|
|           |                        | TOTAL<br>PHDS                   | TOTAL<br>PROF |              |
| MILITARY  | 27                     | 0                               | 42            | 15           |
| CIVILIAN  | 777                    | 107                             | 439           | 338          |
| TOTAL     | 804                    | 107                             | 481           | 353          |

| ACRES | SPACE AND PROPERTY               |        |        | COST (MILLION \$) |        |                 |
|-------|----------------------------------|--------|--------|-------------------|--------|-----------------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN  | OTHER             | TOTAL  | REAL PROP EQUIP |
| 1920  | 537.624                          | 20.103 | 34.157 | 591.884           | 40.462 | 29.998          |

...MISSION:

CONDUCT RES AND EXPL DEV'L IN SCIENCES/TECHNOLOGIES NECESSARY FOR  
CONCEIVING DESIGNING DEVELOPING AND EVALUATING WEAPONS SYSTEMS  
PURSUE ORIENTED FUND RESEARCH IN PHYSICS CHEM MATH ENGR  
INVESTIGATE PERTINENT BRANCHES OF MILITARY SCIENCE AND TECHNOLOGIES

...CURRENT IMPORTANT PROGRAMS

PROPULSION DYNAMICS OF GUN WEAPON SYSTEMS  
CONVENTIONAL NUCLEAR/WARHEAD EFFECTS AND BALLISTICS PROTECTION  
WARHEAD DYNAMICS PENETRATION,FRAGMENTATION:EXPLOSIVE METAL INTERACTIONS  
REFINED FLIGHT DYNAMICS OF PROJECTILES AND MISSILES  
VULNERABILITY/VULNERABILITY REDUCTION MATERIEL GROUND AND AIRBORNE

...FUNCTIONS/EQUIPMENT/CAPABILITIES

SUPersonic AND HYPERSONIC WIND TUNNELS/TRANSonic RANGE  
EXPLOSIVE BLAST CHAMBERS AND HIGH ALTITUDE BLAST SPHERE  
SHOCK TUBE-SIMULATION OF NUCLEAR BLAST/CHEMICAL REACTION RATE  
SOFT RECOVERY SYST FOR ARTY SHELL  
FIELD TEST FACILITIES FOR EXPLOSIVES AND ARMOR RESEARCH  
HIGH SPEED MOTION PHOTOGRAPHY SCHLIEREN INTERFEROMETRY  
ELECTRON MICROSCOPE-ELECTRON SPIN RESONANCE-NUCLEAR MAGNETIC RESEARCH  
ELECTROMAGNETIC RADIATION RANGES  
ANALOG COMPUTER FOR SIMULATION OF DYNAMICS OF GUN AND RIFLE  
PROPULSION AND COMBUSTION CHAMBERS  
FLASH HOLOGRAPHIC SYSTEMS  
AFTER GLOW REACTION CHAMBER-UPPER ATMOSPHERE CHEM REACTION RATE

INSTALLATION: BENLT WEAPONS LABORATORY

WATERVLIET, N.Y.

CDR COL C.M. MATTHEWS JR

TECH DIR DR. ROBERT E. WEIGLE

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 10.093           | 6.284               |
| TOTAL PROCUREMENT     | 4.650            | 4.522               |
| TOTAL OEM             | 1.917            | 2.647               |
| TOTAL OTHER           | 0.225            | 0.425               |
| TOTAL ANNUAL LAB      | 16.865           | 13.878              |
| TOTAL INHOUSE         | 13.922           | 13.878              |
| TOTAL INHOUSE RDT&E   | 7.130            | 6.234               |
| ANNUAL OPERATING COST | 4.403            | 4.282               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 5                      | 0             | 5             | 0            |
| CIVILIAN  | 377                    | 41            | 178           | 199          |
| TOTAL     | 382                    | 41            | 183           | 199          |

| ACRES | SPACE AND PROPERTY |        |       | COST (MILLION \$) |           |       |
|-------|--------------------|--------|-------|-------------------|-----------|-------|
|       | LAB                | ADMIN  | OTHER | TOTAL             | REAL PROP | EQUIP |
| 4     | 167.463            | 24.600 | 7.489 | 199.552           | 4.018     | 6.663 |

...MISSION

DESIGN & DEV OF ARTY, TANK, AIR DEFENSE & SECONDARY CANNON ABOVE 20MM  
SYS MGMT, DESIGN & DEV OF MORTARS & RECOILLESS PIFLE SYSTEMS  
ARMCOM LEAD LAB FOR BARREL & CANNON SUPT & SUPT PHYS & ENGRNG SCIENCES TECH  
BASIC & APPL. RESEARCH & MFG TECH TO SUPT THE DEVELOPMENT MISSION

...CURRENT IMPORTANT PROGRAMS

SYS MGMT LT WT CC MORTAR SYS, DEV OF 60MM MORTAR XM224 FOR LWCMS  
DESIGN & DEV OF 105MM HOW XM205 FOR 105MM TOWED HOW S.R. XM204  
DESIGN & DEV OF CANNON 155MM HOW XM199 FOR 155MM HOW XM198 ON TUBES  
HI PRESS & CYROGENIC EQUIP—OVER 300KB AT 10K & 400KB AT AMBIENT TEMP—  
HIGHEST IN US—RESULT OF ULTRA HI PRESS TECH FOR SYNTHESIS OF NEW MATLS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

UNIQUE FACILITIES & CAPABILITIES INCLUDE HI PRESSURE METALLURGY WITH 2-  
80K HYDROSTATIC, 1-150K HYDROSTATIC, 1-200K STATIC, 1-DUAL PRES(100K & 60K)  
HYDRAULIC FATIGUE SYSTEM & 20-30K BAR FLUID EXTRUSION PRESS—FULL SCALE  
WEAPON COMPONENTS DYNAMIC TESTER BY PRESSURE/PULSE SIMULATED FIRING LOAD  
DIM. STRESS ANALYSIS PHOTODELASTICITY SYS—ENCLOSED PCOF RANGE—40MM MAX—  
ELECTRON MICROSCOPE—2.3 A RESOLUTION—SEM MICROSCOPE WITH 100 A RES.  
CRYOGENIC(4 K)600K BAR HI PRESS SYS—1200 LB-1500 G HI-PERF SHOCK TEST  
HI-TEMP VAC FCE-3000 C MAX, TIME OF FLIGHT MASS SPEC, 2000 GAUSS MAGNET—  
ELECTROPLATE, ANODIZE & TITANIUM HARD COAT PROCESS, ELECTRON MICROPROBE ANAL  
IBM 360-44 COMPUTER W/ GRAPHIC & INTEGRAPIC TERMINAL SYS. AUTOMATED XRAY  
ACQUISITION-ANAL-SYS. FILAMENT WOUND METAL MATRIX PLASMA SPRAY ASSY.  
ELECTRONICALLY CONTROLLED PROGRAMMABLE ORGANIC COMPOSITE FILAMENT WINDER

INSTALLATION: COLD REGIONS R&E LABORATORY

HANOVER, NH

CDR AND DIR COL ROBERT L. CROSBY TECH. DIR. DR. D.P. FREITAS

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL R&D             | 6.090            | 7.888               |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL OEM             | 0.402            | 0.297               |
| TOTAL OTHER           | 2.614            | 2.596               |
| TOTAL ANNUAL LAB      | 9.106            | 10.781              |
| TOTAL INHOUSE         | 6.803            | 7.840               |
| TOTAL INHOUSE R&D     | 4.746            | 5.589               |
| ANNUAL OPERATING COST | 1.889            | 2.063               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 13                     | 0             | 7             | 6            |
| CIVILIAN  | 276                    | 26            | 98            | 178          |
| TOTAL     | 289                    | 26            | 105           | 184          |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |       |        | COST (MILLION \$) |           |       |
|-------|----------------------------------|-------|--------|-------------------|-----------|-------|
|       | LAB                              | ADMIN | OTHER  | TOTAL             | REAL PROP | EQUIP |
| 24    | 17.230                           | 6.168 | 97.646 | 121.044           | 4.789     | 6.278 |

...MISSION

AS THE ARMY LABORATORY FOR SCIENCE AND TECHNOLOGY IN COLD REGIONS, USACRREL CONDUCTS AND COORDINATES RESEARCH APPLICABLE TO THE ARMY'S NEEDS IN THOSE GEOGRAPHIC AREAS OF THE WORLD WHERE COLD REPRESENTS A SEVERE PROBLEM AT LEAST ONE YEAR IN TEN.

...CURRENT IMPORTANT PROGRAMS

DESIGN, CONSTRUCTION, AND OPERATIONS TECHNOLOGY FOR COLD REGIONS RESEARCH IN SNOW, ICE, AND FROZEN GROUND

MOBILITY AND ENVIRONMENTAL RESEARCH

LAND TREATMENT OF WASTEWATER

ICE ENGINEERING

...FUNCTIONS/EQUIPMENT/CAPABILITIES

THE MAIN LABORATORY AT USACRREL CONTAINS 24 COLD LABS (WHICH CAN BE OPERATED TO -58 F), SPECIAL TESTING APPARATUS FOR FROZEN MATERIALS, A CHEMISTRY LAB, AN ELECTRON MICROSCOPE LAB, A SOILS PROCESSING LAB, A PAVEMENT TEST FACILITY FOR TESTING UNDER FREEZING & THAWING CONDITIONS, A WASTEWATER TREATMENT RESEARCH FACILITY, A COMPUTER FACILITY, A MASS SPECTROMETER, A GAS CHROMATOGRAPH, AND A SMALL LASER FACILITY. AN ALASKA PROJECTS OFFICE AT FAIRBANKS CONDUCTS RESEARCH AND PROVIDES LOGISTIC SUPPORT FOR OTHER RESEARCH. USACRREL'S MILITARY AND CIVILIAN PERSONNEL HAVE EXPERTISE COVERING A WIDE RANGE OF SCIENTIFIC AND ENGINEERING DISCIPLINES RELATED TO COLD REGIONS RESEARCH.

INSTALLATION: COMBAT SURVEILLANCE & TGT ACQUISITION LABS FT. MONMOUTH, N.J.  
DIR COL WINSTON K. EVANS

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 28.077                                   | 25.782              |
| TOTAL PROCUREMENT     | 4.132                                    | 0.000               |
| TOTAL CGM             | 0.537                                    | 0.000               |
| TOTAL OTHER           | 0.000                                    | 0.000               |
| TOTAL ANNUAL LAB      | 32.746                                   | 25.782              |
| TOTAL INHOUSE         | 14.839                                   | 11.031              |
| TOTAL INHOUSE RDT&E   | 12.303                                   | 11.031              |
| ANNUAL OPERATING COST | 4.500                                    | 4.725               |

| PERSONNEL | PERSONNEL DATA (END OF FY 1976) |               | NON-<br>PROF |
|-----------|---------------------------------|---------------|--------------|
|           | AUTHORIZED<br>STRENGTH          | TOTAL<br>PHDS |              |
| MILITARY  | 11                              | 0             | 9            |
| CIVILIAN  | 240                             | 12            | 153          |
| TOTAL     | 251                             | 12            | 162          |

| ACRES | SPACE AND PROPERTY               |       |        | COST (MILLION \$) |           |        |
|-------|----------------------------------|-------|--------|-------------------|-----------|--------|
|       | SPACE (THOUSANDS OF SQUARE FEET) |       |        | TOTAL             | REAL PROP | EQUIP  |
|       | LAB                              | ADMIN | OTHER  |                   |           |        |
| 227   | 88.475                           | 6.139 | 12.569 | 107.183           | 3.950     | 15.848 |

...MISSION

DO R&D OF EQUIPMENT FOR COMBAT SURVEILLANCE, TARGET ACQUISITION, IFF AND RADIOLOGICAL SURVEY, APPLYING TECHNOLOGY IN RADAR, ELECTRO-OPTICS, PARTICULARLY LASERS, PHOTOGRAPHY, REMOTE SENSING, ACOUSTICS, RADIATION DETECTION & MEASUREMENT, & IFF. ACT AS BARCOM LEAD LAB ON LOW ENERGY LASERS

...CURRENT IMPORTANT PROGRAMS

ADV DEV CONCEPT FEASIBILITY OF STAND OFF TARGET ACQUISITION SYS (SOTAS)  
ENGR DEV OF ARMY INFILIGHT DATA TRANSMISSION SYSTEM (AIDATS)  
ENGR DEV OF LASER DESIGNATOR TRACKER SYSTEM (LDTTS)  
ENGR DEV OF LIGHT WEIGHT SURVEILLANCE RADAR AN/PPS-15  
ENGR DEV OF HANDHELD LASER RANGEFINDER AN/GVS-5

...FUNCTIONS/EQUIPMENT/CAPABILITIES

PHOTO PROCESSING, OPTICAL TEST, LENS RESOLUTION TEST PATTERN FACILITIES INCL, DARK ROOMS, CHEM LABS, RADAR TECHNIQUES DEV FAC, MI CROWAVE DARK ROOM, ANTENNA PATTERN & TEST RANGE, 65 FOOT RADAR TEST PLATFORM, OUTDOOR AND INDOOR RANGES INSTRUMENTED FROM 30 MHZ TO 70 GHZ. MOBILE SPECTRAL AND TIME DISTRIBUTION MEASUREMENT FAC GOOD FROM 2900A TO INTERMEDIATE. OPTICS FACILITY FOR MEASURING DETECTIVITY OF ELEMENTS, OUTPUT OF SOURCES, TRANSMISSION CHARACTERISTICS. SPECIAL LASER TEST AND MEASUREMENT FAC, INCLUDING A 3.4 KM LONG AND 18 METER WIDE RANGE EQUIPPED WITH TWO HIGH RESOLUTION TARGET TO EVALUATE LASER RANGEFINDING, DESIGNATING AND TRACKING SYSTEMS. RADAR INSTRUMENTATION FAC CAPABLE OF TRACKING X-BAND RADAR AND COLLECTING AND RECORDING POSITION, VELOCITY AND SIGNAL STRENGTH, ALSO HAS SHORT RANGE SEARCH CAPABILITY.

INSTALLATION: COMMUNICATIONS ADP LABORATORY

FT. MONMOUTH, N.J.

COR COL D.A. SLINGERLAND

DEP DIR MR R.P. RIEHS

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 18.185           | 16.715              |
| TOTAL PROCUREMENT     | 2.350            | 1.905               |
| TOTAL OEM             | 2.825            | 0.794               |
| TOTAL OTHER           | 0.000            | 0.000               |
| TOTAL ANNUAL LAP      | 23.360           | 19.414              |
| TOTAL INHOUSE         | 14.092           | 13.779              |
| TOTAL INHOUSE RDT&E   | 14.977           | 11.080              |
| ANNUAL OPERATING COST | 3.250            | 3.500               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 12                     | 1             | 7             | 5            |
| CIVILIAN  | 361                    | 16            | 255           | 106          |
| TOTAL     | 373                    | 17            | 262           | 111          |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |        |       | COST (MILLION \$) |           |        |
|-------|----------------------------------|--------|-------|-------------------|-----------|--------|
|       | LAB                              | ADMIN  | OTHER | TOTAL             | REAL PROP | EQUIP  |
| 0     | 41.000                           | 48.000 | 1.000 | 90.000            | 0.000     | 12.019 |

...MISSION

TO PERFORM R&D ACTIVITIES RELATED COMMUNICATIONS EQUIPMENTS AND SYSTEMS WHICH INCLUDE THE FIELDS OF RADIO TELEPHONIC TELEGRAPHIC AND FACSIMILE COMMUNICATIONS SWITCHING DATA STORAGE COMMUNICATIONS SECURITY ELECTRO-MAGNETIC COMPATIBILITY AND COMMUNICATING PROCESSES

...CURRENT IMPORTANT PROGRAMS

SINGLE CHANNEL GROUND AND AIRBORNE RADIO SYSTEM (STNGARS)

RADIO SET AN/PRC 70

ATACS TSQ-25 TSQ-84A TD-1065 TD-1069 MX-9331 SB-3614 TD-206

MSCS AN/TTC-39 DIGITAL GROUP MULTIPLEXERS TENLEY UNIT-LEVEL-SWITCHBOARD PATRIOT COMMUNICATION RELAY GROUP

...FUNCTIONS/EQUIPMENT/CAPABILITIES

TEST INSTRUMENTS AND SPECIALIZED ELECTRONIC MECHANICAL AND OPTICAL EQUIPMENT TO PERFORM DESIGN FABRICATION AND TESTING OF ELECTRON-IC CIRCUIT COMPONENTS EQUIPMENTS IN PRINTING SPEECH NARROW AND WIDE BAND RADIOS FROM LOW TO LASER FREQUENCY RANGE CONVENTIONAL AND ADVANCED MULTIPLEXING SWITCHING ERROR DETECTION AND CODING ANTENNA AND PROPAGATION TECHNOLOGIES FIXED AND MOBILE TACTICAL RADIO MODEM MULTIPLEXING SWITCHING EQUIPMENTS TO SIMULATE FIELD CONFIGURATIONS FOR TEST DATA COLLECTION AND EVALUATION OF EXISTING EQUIPMENT PROPAGATION INTERFACE PROBLEMS ANTENNA TEST FACILITY AND SHIELDED ROOMS FOR MEASURING UFT AND ESTABLISHING ODD STANDARDS FOR ELECTROMAGNETIC COMPATIBILITY RADIATION AND PROPAGATION IONOSPHERIC SOUNDING FACILITY (DIGITAL IONOSONDE) FOR REAL TIME CONTINUOUSLY-UPDATED IONOSPHERIC PREDICTIONS

INSTALLATION: CONSTRUCTION ENGINEERING RESEARCH LABORATORY URBANA, IL.

CDR AND DIR COL J.E. HAYS

TECH DIR DR L.R. SHAFFER

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976     |             | 1977     |             |
|-----------------------|----------|-------------|----------|-------------|
|                       | (ACTUAL) | (ACT + EST) | (ACTUAL) | (ACT + EST) |
| TOTAL RDT&E           | 13.107   |             | 11.422   |             |
| TOTAL PROCUREMENT     | 0.000    |             | 0.000    |             |
| TOTAL OEM             | 1.624    |             | 0.645    |             |
| TOTAL OTHER           | 0.266    |             | 0.095    |             |
| TOTAL ANNUAL LAB      | 14.997   |             | 12.162   |             |
| <br>TOTAL INHOUSE     | 12.132   |             | 7.389    |             |
| TOTAL INHOUSE RDT&E   | 11.193   |             | 7.016    |             |
| ANNUAL OPERATING COST | 1.663    |             | 1.386    |             |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL |            | NON-<br>PROF |          |
|-----------|------------------------|-------|------------|--------------|----------|
|           |                        | PHDS  | TOTAL PROF | PROF         | NON-PROF |
| MILITARY  | 3                      | 0     | 3          | 3            | 0        |
| CIVILIAN  | 209                    | 27    | 108        | 108          | 101      |
| TOTAL     | 212                    | 27    | 111        | 111          | 101      |

| ACRES | SPACE AND PROPERTY |        |       | COST (MILLION \$) |           |       |
|-------|--------------------|--------|-------|-------------------|-----------|-------|
|       | LAB                | ADMIN  | OTHER | TOTAL             | REAL PRCP | EQUIP |
| 30    | 76.081             | 34.159 | 0.000 | 110.240           | 3.896     | 4.067 |

...MISSION

PLAN, EXECUTE, AND EVALUATE RESEARCH TO OBTAIN THE BEST COMBINATION OF ENGINEERING, DESIGN, CONSTRUCTION, OPERATION & MAINTENANCE TO PROVIDE FACILITIES FOR THE MILITARY ESTABLISHMENT AND OTHER AGENCIES AT LEAST COST AND TO DISSEMINATE THE RESEARCH RESULTS.

...CURRENT IMPORTANT PROGRAMS

MATERIALS RESEARCH AND DEVELOPMENT FOR MILITARY CONSTRUCTION  
ENVIRONMENT QUALITY FOR CONSTRUCTION & OPERATION OF MILITARY FACILITIES  
DEVELOPMENT OF INDUSTRIALIZED CONSTRUCTION FOR MILITARY FACILITIES  
DEVELOPMENT OF AUTOMATED PROCEDURES FOR MILITARY CONSTRUCTION  
ARCHITECTURAL RESEARCH AND DEVELOPMENT FOR MILITARY FACILITIES

...FUNCTIONS/EQUIPMENT/CAPABILITIES

CONTROLLED ENVIRONMENT CHAMBER, ONE MILLION POUND CLOSED LOOP MATERIALS TEST SYSTEM, SCANNING ELECTRON MICROSCOPE, 5MW RESISTANCE LOAD BANK AND INSTRUMENTATION, X-RAY EQUIPMENT, SEMI-AUTOMATIC WELDING EQUIPMENT, BIAXIAL SHOCK TEST MACHINE, NON-DESTRUCTIVE TESTING FACILITY, VACUUM INDUCTION FURNACES, METALLOGRAPHIC SAMPLE PREPARATION AND RESEARCH METALLOGRAPH X-RAY DIFFRACTION AND VACUUM SPECTROSCOPY SYSTEM, DYNAMIC TENSION ANALYSIS SYSTEM, DIGITAL RECORDING ANALYSIS EQUIPMENT  
FACILITIES CAPABILITIES INCLUDE SYSTEMS BUILDING METHODS AND TECHNIQUES, COMPUTER BASED DESIGN AND CONSTRUCTION MANAGEMENT TECHNIQUES, HARDENED FACILITIES ANALYSIS, ENVIRONMENTAL QUALITY MANAGEMENT, POLLUTION CONTROL AND ABATEMENT, MILITARY HOUSING SYSTEMS, POWER GENERATION SYSTEMS, UTILITIES SYSTEMS ANALYSIS AND EVALUATION, AND ARCHITECTURAL RESEARCH.

INSTALLATION: DUGWAY PROVING GROUND

DUGWAY UT

CDR COL ADALBERT E. TOEPEL, JR

SCIENTIFIC DIR. MR. M.A. ROTHENBERG

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 11.718                                   | 14.317              |
| TOTAL PROCUREMENT     | 0.220                                    | 0.101               |
| TOTAL D&M             | 3.525                                    | 3.134               |
| TOTAL OTHER           | 4.094                                    | 4,253               |
| TOTAL ANNUAL LAB      | 19.557                                   | 21.805              |
| <br>TOTAL INHOUSE     | 16.844                                   | 18.134              |
| TOTAL INHOUSE RDT&E   | 9.849                                    | 11.431              |
| ANNUAL OPERATING COST | 0.835                                    | 0.854               |

| PERSONNEL | PERSONNEL DATA (END OF FY 1976) |               | NON-<br>PROF |
|-----------|---------------------------------|---------------|--------------|
|           | AUTHORIZED<br>STRENGTH          | TOTAL<br>PHDS |              |
| MILITARY  | 173                             | 3             | 33           |
| CIVILIAN  | 636                             | 17            | 175          |
| TOTAL     | 809                             | 20            | 208          |

| ACRES  | SPACE AND PROPERTY               |         |          | COST (MILLION \$) |        |                 |
|--------|----------------------------------|---------|----------|-------------------|--------|-----------------|
|        | SPACE (THOUSANDS OF SQUARE FEET) | LAB     | ADMIN    | OTHER             | TOTAL  | REAL PROP EQUIP |
| 840909 | 90.728                           | 191.558 | 1680.346 | 1962.632          | 51.237 | 16.086          |

...MISSION

DPG PLANS & CONDUCTS APPROVED TESTS TO ASSESS THE MILITARY VALUE OF CML WEAPONS, SMOKE/OBSCURANTS & CML-BIO DEF SYS. TESTS SPT R&D & PROVIDE BASIS FOR DEVELOPMENT OF NEW OPERATIONAL & LOGISTICAL CONCEPTS FOR EMPLOYMENT OF TESTED SYS. TESTS ARE RESPONSIVE TO USER REQUIREMENTS.

...CURRENT IMPORTANT PROGRAMS

CONDUCTS SERVICE DEV CML CML-BIO DEFENSE SMOKE/OBSCURANT TEST PROGRAMS  
CONDUCTS R & D & LAB INVESTIGATIONS NECESSARY TO SUPPORT MISSION  
CONDUCTS JT OP CML & CML-BIO DEFENSE TESTS/STUDIES FOR CINCS, SERVICES  
CONDUCTS PROG TO SUP ARMY POLL ABATEMENT HAZARD EVAL & DEMIL OPNS  
CONDUCTS ECOLOGICAL EPIDEMIOLOGICAL & TOXICOLOGICAL SURVL OF DPG AREA

...FUNCTIONS/EQUIPMENT/CAPABILITIES

INST GRIDS FOR CML CML-BIO TESTS: ARTY PG FOR CONVL & CML METAL PARTS, BALLISTIC & DISSEM TESTS: WITH FIELD SMPL, SMPL MASS ANAL, MET (AUTO DATA ACQ & MESOMET NETWK) SYS. TSPI (RADAR SLAVE PHOTO) SYS; PHYS & ENVIRON TEST FAC (MIL SPEC 810) CHAMBERS FOR TOTAL AGENT CONTAMNMT; EXPLO SHIELDING PROPAGATION & OVERPRESSURE MEASMTS, OPNS SPTD BY MET RSCH ON BEHAVIOR OF CLOUDS; CML, LIFE SCI TECHN, ECOL SURV OF DPG; CAPBL FOR PLANNING ANAL, EVAL OF TESTS, OPNS RSCH; LABS EQUIPD FOR WIDE RNG OF CML, MICROBIOL, TOXICOL, IMMUNOL, ECOL, EPIDEMIO, POLL CNTL STUDIES; CAPBL FOR REAL BIO SIMUL AG; TECHN & MASS ASSAY OF FLUORESCENT AIR TRACERS; EXTENS V COMM & RG SAFETY SYS. OUTSTANDING ARE LARGE LAND AREA, RESTRICTED AIR SPACE LONG & FLAT ARTY RANGES, PROJECTILE RECOVERY, SONIC & ELECTROMAG STERILITY, DIVERSE SKILLS.

INSTALLATION: EDGEWOOD ARSENAL LABORATORIES

EDGEGOOD ARSENAL, MD.

COR COL STAFFORD R. BROOKE

TECH DIR DR BENJAMIN L. HARRIS

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976     |             | 1977   |  |
|-----------------------|----------|-------------|--------|--|
|                       | (ACTUAL) | (ACT + EST) |        |  |
| TOTAL RDT&E           | 48.651   |             | 54.320 |  |
| TOTAL PROCUREMENT     | 10.700   |             | 4.000  |  |
| TOTAL OEM             | 4.754    |             | 2.923  |  |
| TOTAL OTHER           | 1.575    |             | 1.500  |  |
| TOTAL ANNUAL LAB      | 65.680   |             | 62.743 |  |
| TOTAL INHOUSE         | 60.537   |             | 49.630 |  |
| TOTAL INHOUSE RDT&E   | 43.508   |             | 41.207 |  |
| ANNUAL OPERATING COST | 17.159   |             | 18.352 |  |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 126                    | 30            | 82            | 44           |
| CIVILIAN  | 824                    | 55            | 460           | 364          |
| TOTAL     | 950                    | 85            | 542           | 408          |

| ACRES | SPACE AND PROPERTY               |         |        | COST (MILLION \$) |           |        |
|-------|----------------------------------|---------|--------|-------------------|-----------|--------|
|       | SPACE (THOUSANDS OF SQUARE FEET) |         |        | TOTAL             | REAL PROP | EQUIP  |
|       | LAB                              | ADMIN   | OTHER  |                   |           |        |
| 2000  | 501.312                          | 124.180 | 98.595 | 724.087           | 17.103    | 15.494 |

...MISSION

CLASS II ACTIVITY CONDUCTING A RESEARCH AND DEVELOPMENT MISSION FOR ARMY CHEMICAL MUNITIONS AND DEFENSIVE ITEMS. INCLUDES BASIC RESEARCH AND GENERAL INVESTIGATIONS, AS WELL AS EXPLORATORY, ADVANCED AND ENGINEERING DEVELOPMENT OF MATERIAL.

...CURRENT IMPORTANT PROGRAMS

DEV SMOKE/AEROSOL MUN FOR SCREENING : FORM OF SMOKE/AEROSOL TECH BASE  
IMMUNO-PROPHYLAXIS AGAINST LETHAL CHEMICAL AGENTS  
BIOLOGICAL AND CHEMICAL AGENT ALARM DEVELOPMENT  
NEW PROTECTIVE MASK DEVELOPMENT  
BINARY LETHAL CHEMICAL AGENT PROJECTILE DEVELOPMENT

...FUNCTIONS/EQUIPMENT/CAPABILITIES

TOX EFFCTS CML AGT, MED PROPHYLAXIS, TREAT; CML DECON: CONTAM AVOID CML PROT TECH, CML SAFETY INVEST, CML DETECT, ID TECH, CML ALARM TECH, CML TRNG AGTS. EQMT, PLM DEF AGST BIO ATCK, CML THREAT ASMT TECH, GENERAL CML INVEST. ISSUE: DISPER TECH, LETH CML AGT/WPN, INCAP CML AGT, SMOKE, CIVIL DISTURBANCE, TACTICAL IRRITANT, FLAME: INCENDIARY WPNS. ENVIRONMENTAL QUALITY CONTROL TECHNOLOGY: RESRCH IN DEFENSIVE SYSTEM FOR CW/BW. MAJOR EQUIP IS CONTAINED IN A COMPLEX OF ENGR, LAB AREAS, INCLUDES CML PILOT PLANTS-MUN FILLING-ENGR DESIGN, EXPER FAB SHOPS, AEROSOL DISSEM TEST CHAMBERS, PYROTECH MIXING-LOADING, HANDLING FAC, INDOOR BALLISTIC RANGE, SUBSONIC-SUPersonic, TRANSONIC WIND TUNNELS, A COMPLETE CLINICAL RESEARCH FACILITY, ANIMAL BREEDING/HOLDING FACILITY.

INSTALLATION: ELECTRONIC PROVING GROUND

FT. HUACHUCA, AR.

CDR COL EARL D. DOWNING

TECH. DIR. DR. GEORGE E. SCHAFER

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 4.534            | 3.951               |
| TOTAL PROCUREMENT     | 0.750            | 0.740               |
| TOTAL OEM             | 1.069            | 0.988               |
| TOTAL OTHER           | 5.110            | 5.068               |
| TOTAL ANNUAL LAB      | 11.463           | 10.747              |
| <br>TOTAL INHOUSE     | 10.275           | 9.513               |
| TOTAL INHOUSE RDT&E   | 4.032            | 3.457               |
| ANNUAL OPERATING COST | 5.906            | 5.062               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHUS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 523                    | 2             | 37            | 286          |
| CIVILIAN  | 193                    | 2             | 68            | 125          |
| TOTAL     | 516                    | 4             | 105           | 411          |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |        |         | COST (MILLION \$) |           |        |
|-------|----------------------------------|--------|---------|-------------------|-----------|--------|
|       | LAB                              | ADMIN  | OTHER   | TOTAL             | REAL PROP | EQUIP  |
| 42800 | 0.000                            | 55.518 | 120.893 | 176.411           | 2.468     | 43.208 |

...MISSION

PLAN, CDT, EVAL, REPT RESULTS OF DEV AND DEV-TYPE TESTS IAW INTGRD TESTING CYCLE PLCY FOR COMM-ELCT AND OPT/ELECTRO-OPT EQUIP AND SYS, TEMPEST AND OTHER MAT. CP SMETF, ECM VULNERABILITY TEST FAC, AND STF. DEV/MAINT MASTER PLAN FOR DEV AND MODERNIZATION OF TEST INSTR, TEST FAC, TEST METHODOLOGY.

...CURRENT IMPORTANT PROGRAMS

TRI-TAC PROGRAM

ELECTROMAGNETIC COMPATIBILITY PROGRAM /EMC/

TEMPEST PROGRAM

REMOTELY MONITORED BATTLEFIELD SENSOR SYSTEM PROGRAM /REMBASS/

COMSEC TESTING PROGRAM

...FUNCTIONS/EQUIPMENT/CAPABILITIES

CONDUCT DEV AND DEV-TYPE TESTS IAW INTGRD TESTING CYCLE FOR COMM-ELCT AND OPTICAL/ELECTRO-OPT EQUIP AND SYSTEMS, TEMPEST, AND OTHER MATERIELS AS DIRECTED. MAINT CAPABILITY FOR ELECTROMAGNETIC COMPATIBILITY AND ELECTRONIC COUNTERMEASURES TEST ANALYSES. OPERATE AND MAINTAIN THE INSTRUMENTATION AND FACILITIES TO PROVIDE NECESSARY CAPABILITY. MAINTAIN CAPABILITY FOR CONDUCT OF TEMPEST TESTS AND ANALYSES DURING RESEARCH, DEVELOPMENT, TESTS AND EVALUATION CYCLES. CONDUCT OR PARTICIPAT IN FIELD RESEARCH AND RELATED STUDIES FOR DOD AGENCIES AS DIRECTED. DEVELOP AND MAINTAIN MASTER PLAN FOR THE DEVELOPMENT AND MODERNIZATION OF TEST INSTRUMENTATION, TEST FACILITIES, TEST METHODOLOGY AND TEST EXPERTISE NECESSARY TO SUPPORT ARMY MATERIEL DEVELOPMENT.

INSTALLATION: ELECTRONIC WARFARE LABORATORY

FT. MONMOUTH, N.J.

DIR MR CLYDE D. HARDIN

DEP DIR COL A.E. LA PORTE JR

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 49.774           | 40.358              |
| TOTAL PROCUREMENT     | 38.084           | 99.755              |
| TOTAL G&M             | 0.986            | 1.312               |
| TOTAL OTHER           | 0.000            | 0.000               |
| TOTAL ANNUAL LAS      | 88.844           | 141.425             |
| <br>TOTAL INHOUSE     | 22.478           | 21.238              |
| TOTAL INHOUSE RDT&E   | 18.140           | 17.181              |
| ANNUAL OPERATING COST | 2.334            | 2.376               |

## PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 60                     | 0             | 3             | 57           |
| CIVILIAN  | 434                    | 9             | 235           | 199          |
| TOTAL     | 494                    | 9             | 238           | 256          |

| ACRES | SPACE AND PROPERTY               |        |        | COST (MILLION \$) |       |           |
|-------|----------------------------------|--------|--------|-------------------|-------|-----------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN  | OTHER             | TOTAL | REAL PROP |
| 0     | 142.936                          | 13.617 | 48.502 | 205.055           | 0.000 | 47.800    |

## ...MISSION

RES AND DEV ESSENTIAL TO ELECTRONIC WARFARE AND SELECTED AREAS OF INTEL. ENCOMPASSES APPLIED R&D INCL QRC DEV AND SPT IN INTERCEPT, DF, SIG ANALYSIS, JAMMING, DECEP, SIG INTLL, ACCUST INTELL, AGENT EQUIP, SECURITY, COUNTER-INTEL, VULNERABILITY AND COUNTER-COUNTERMEASURES.

## ...CURRENT IMPORTANT PROGRAMS

EW/SIGINT, DEVELOPMENT/PRODUCTION OF ASA MISSION EQUIPMENT. SELF-PROTECTION, ARMY ACFT, TANKS, TROOPS, LAND COMBAT WARNING/ECHM. VULNERABILITY/ECCM, C-E SYSTEMS, MISSILES. TECHNOLOGY, EW TECH, HF THRU MM WAVS; IR THRU UV. QRC READINESS.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

TECHNICAL FACILITIES, BIG CROW(KC-135, AIRBORNE EW LABORATORY), IRCM SIMULATOR (US AND FOREIGN MISSILES), IR MEASUREMENTS AND DATA REDUCTION (ISMS, ISIS; AIRCRAFT SIGNATURES), MOBILE INSTRUMENTATION FACILITY (LGWCM) +IMDSO PHOTO AND PHYSICAL SECURITY FACILITIES, EW INFORMATION SYSTEM (QRC DATA BASE), WAYSIDE TEST AREA (HF, VHF, DF, IONOSCOPIC), ANTENNA RANGE FACILITY(MICROWAVE, DF, ANTENNA PATTERNS), SANDY HOOK TEST AREA(LINT MEASUREMENTS), ANECHOIC CHAMBER (MICROWAVE ANTENNA MEASUREMENTS), ELECTRONICALLY SECURE LABORATORY AREA.

INSTALLATION: ELECTRONICS TECHNOLOGY AND DEVICES LAB FT. MONMOUTH, N.J.

DIR DR C.G. THORNTON

DEP DIR MR S. DANKO

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 21.202           | 21.791              |
| TOTAL PROCUREMENT     | 1.571            | 0.482               |
| TOTAL OEM             | 0.250            | 0.183               |
| TOTAL OTHER           | 0.000            | 0.000               |
| TOTAL ANNUAL LAB      | 23.023           | 22.456              |
| TOTAL INHOUSE         | 12.645           | 12.128              |
| TOTAL INHOUSE RDT&E   | 11.044           | 11.593              |
| ANNUAL OPERATING COST | 1.929            | 1.956               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 4                      | 0             | 4             | 0            |
| CIVILIAN  | 340                    | 37            | 220           | 120          |
| TOTAL     | 344                    | 37            | 224           | 120          |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |        |        | COST (MILLION \$) |           |        |
|-------|----------------------------------|--------|--------|-------------------|-----------|--------|
|       | LAB                              | ADMIN  | OTHER  | TOTAL             | REAL PROP | EQUIP  |
| 0     | 95.617                           | 10.575 | 25.936 | 132.128           | 0.000     | 10.931 |

...MISSION

TO DEVELOP AN ESSENTIAL BASE IN ELECTRONICS TECHNOLOGY AND DEVICES CONSISTENT WITH NEXT GENERATION ARMY SYSTEM OPERATIONAL REQUIREMENTS. TO THIS END, AN APPLIED R&D PROGRAM IS PURSUED FOCUSING ON CRITICAL BARRIER DEVICE AND MATERIAL PROBLEMS THAT INHIBIT DEVEL. OF NEW ARMY SYSTEMS.

...CURRENT IMPORTANT PROGRAMS

ADVANCE IC TECHNOLOGY, FREQ. CONTROL, AND SIGNAL PROCESSING FOR 10-100X IMPROVEMENT IN SYSTEM COST, PERFORMANCE AND RELIABILITY. DEVELOP HIGH ENERGY PORTABLE POWER SOURCES FOR FIELD ARMY. DEVELOP COMPACT, LOW COST TUBES AND DISPLAYS FOR EXPANDED GRND. AND AB SERVICES. SYNTHESIS AND CHARACTERIZATION OF IMPROVED ELECTRONIC MATERIALS FOR NEW DEVICES.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

FACILITIES AVAILABLE FOR PERFORMING R&D ON PREPARATION, PROPERTIES AND CONTROL OF ELECTRONIC MATERIALS FOR CONDUCTING R&D ON ELECTRONIC PARTS, DEVICES, INTEGRATED CIRCUITS AND ASSEMBLIES. LABORATORIES FOR PERFORMING R&D IN THESE AREAS ARE EQUIPPED WITH THE NORMAL ARRAY OF STD. LABORATORY INSTRUMENTATION AND FACILITIES. LABORATORY WORK AREAS INCLUDE FACILITIES FOR THE COMPLETE DESIGN, FABRICATION AND TESTING OF IC'S, HYBRID CIRCUITS, ASSEMBLIES, SEMICONDUCTOR DEVICES, QUARTZ CRYSTALS, MICROWAVE AND MILLIMETERWAVE DEVICES AND CIRCUITS, ELECTRON TUBES, AND DISPLAY DEVICES. ALSO FACILITIES FOR PRIMARY, SECONDARY, AND SPECIAL PURPOSE POWER SOURCES, ELECTROCHEMICAL RESEARCH, CHARACTERIZATION OF ELECTRONIC MATERIALS, AND FOR STUDIES OF RADIATION PROCESSING OF ELECTRONIC MATERIALS.

INSTALLATION: ENGINEER TOPOGRAPHIC LABORATORIES

FT. BELVOIR, VA.

CDR COL M.K. KURTZ, JR

TECH. DIR. MR. ROBERT P. MACCHIA

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 15.375           | 14.576              |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL O&M             | 0.070            | 1.465               |
| TOTAL OTHER           | 0.218            | 0.231               |
| TOTAL ANNUAL LAB      | 15.663           | 16.272              |
| <br>TOTAL INHOUSE     | 7.142            | 8.493               |
| TOTAL INHOUSE RDT&E   | 6.855            | 7.339               |
| ANNUAL OPERATING COST | 1.808            | 2.150               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 16                     | 1             | 11            | 5            |
| CIVILIAN  | 261                    | 20            | 164           | 97           |
| TOTAL     | 277                    | 21            | 175           | 102          |

| ACRES | SPACE AND PROPERTY               |       |        | COST (MILLION \$) |       |           |
|-------|----------------------------------|-------|--------|-------------------|-------|-----------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB   | ADMIN  | OTHER             | TOTAL | REAL PROP |
| 33    | 90.722                           | 7.000 | 19.280 | 117.002           | 6.000 | 11.000    |

...MISSION

ACCOMPLISHES RESEARCH AND DEVELOPMENT OF SYSTEMS, EQUIPMENT, PROCEDURES AND TECHNIQUES APPLICABLE TO MAPPING, SURVEYING, GEODESY, PHOTO-INTERPRETATION AND MILITARY GEOGRAPHIC INFORMATION RELEVANT TO MILITARY OPERATIONS AND MATERIEL DEVELOPMENT.

...CURRENT IMPORTANT PROGRAMS

SUPPORT TO PERSHING II

TOPOGRAPHIC SUPPORT SYSTEM

POSITION AND AZIMUTH DETERMINING SYSTEM

ARMY TERRAIN INFORMATION SYSTEM

DIGITAL IMAGE ANALYSIS LABORATORY

...FUNCTIONS/EQUIPMENT/CAPABILITIES

FACILITIES INCLUDE A CARTOGRAPHIC LABORATORY TO STUDY THE PROBLEMS ASSOCIATED WITH HANDLING DIGITAL CARTOGRAPHIC DATA, A DIGITAL IMAGE PROCESSING LABORATORY TO STUDY THE MANIPULATION AND ENHANCEMENT OF TERRAIN IMAGERY FOR OBTAINING MAPPING AND GEOGRAPHIC DATA, AND A COHERENT OPTICS LABORATORY FOR DETERMINING THE POTENTIAL OF COHERENT OPTICS FOR TOPOGRAPHIC DATA PROCESSING. COMPUTATIONAL EQUIPMENT INCLUDES THE CDC 6400, GOODYEAR STARAN S-1000 AND DEC PDP 11/50. OTHER SPECIALIZED EQUIPMENT INCLUDE A COMTAL, DICOMED, PDS DIGITAL AUTOMATED MICRODENSITOMETER, A RECORDING OPTICAL SPECTRUM ANALYZER, POKELS RANDOM OPTICAL MODULAR, COLOR AND MULTIBAND AERIAL CAMERAS, PRECISION MENSURATION EQUIPMENT, AND A COHERENT RADAR SIGNAL PROCESSOR.

INSTALLATION: ENGINEER WATERWAYS EXPERIMENT STATION VICKSBURG, MISS.

DIR COL JOHN L. CANNON

TECH DIR MR F.R. BROWN

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL ROT&E           | 12.386           | 14.187              |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL OEM             | 0.217            | 0.290               |
| TOTAL OTHER           | 34.650           | 38.023              |
| TOTAL ANNUAL LAB      | 47.253           | 52.500              |
| <br>TOTAL INHOUSE     | 37.224           | 41.650              |
| TOTAL INHOUSE ROT&E   | 10.803           | 12.283              |
| ANNUAL OPERATING COST | 6.335            | 7.055               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 39                     | 3             | 26            | 13           |
| CIVILIAN  | 1350                   | 80            | 463           | 887          |
| TOTAL     | 1389                   | 83            | 489           | 900          |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |         |         | COST (MILLION \$) |           |        |
|-------|----------------------------------|---------|---------|-------------------|-----------|--------|
|       | LAB                              | ADMIN   | OTHER   | TOTAL             | REAL PROP | EQUIP  |
| 2092  | 1665.220                         | 330.304 | 170.806 | 2166.330          | 17.211    | 29.096 |

...MISSION

MIL&CIV FUNDED RSCH, DEV&INVES IN HYD, ECOLOGY, PERM&EXPEDIENT PAVEMENTS, SCIL, CONCRETE, EXPLO WPN EFF, EXPLO EXCAVATION, VEH MOBILITY&ENVIRONMENTAL ASPECTS OF MIL OPERATIONS. OPERATE TECH LIBRARY&GOVERNMENT CEMENT&POZZOLAN TEST PROGRAM. SERVES CE, DARCOM, DNA, ERDA, AF, NAVY, EPA & OTHER AGENCIES

...CURRENT IMPORTANT PROGRAMS

HYD&MATH MODELING TO SOLVE RIVER, TIDAL, WIND-WAVE, ECOLOGICAL&STRUC PROBS. RSCH ON VEH MOBILITY, REMOTE SENSING, DREDGED MAT, & EARTHQUAKE DESIGN CRIT. NUC&HE RSCH TO DEV CRIT FOR ED OF PROTECTIVE STRUC, BARRIERS & EXCAVATIONS. RSCH, DEV&FORMULATION OF NEW&IMP ENG CRIT ON ROADS, STOR AREAS, GAIRFIELDS. INVES OF CEMENTITIOUS MATERIALS AND RSCH OF MASS AND STRUCTURAL CONCRETE

...FUNCTIONS/EQUIPMENT/CAPABILITIES

CAPABLE OF PERFORM GEN INVES IN FLD OF HYD, SOIL MECH, CONCRETE, MOBILITY OF MIL VEH, EXPLO EFF, ECOLOGY&EXPLO EXCAVATION AND DEV OF STRUC & PAVEMENTS DESIGN CRIT. THRU BR&APPLIED RSCH, THE CAPABILITY OF DEV METHODS&TECH AND THE TESTING OF MATEQUIP IS EXERCISED TO ASST IN ACCOMPT OF THE CE MSN. WES RESERVATION CNTN BLDGS, TEST SITES, SPECIAL EQUIP&OTHER PLANT FAC. TEST SITES&FAC FOR SP PURPOSES ARE MAINT IN OTHER AREAS ON PERM OR TEMP BASIS. FAC INCL FLUMS OF DIFF TYPES&SIZES, WAVE&TIDE GENR MACH, DRILL EQUIP, FULLY EQUIPED SOILS, CONCRETE, CHEMISTRY, CALBR, ELCT&TEMPERATURE CON ENVIRONMENTAL MODEL LABS, X-RAY DIFFRACTION SPECTROSCOPY APPAR, LARGE AND SMALL BLAST LOAD GENERATOR, 200K DYNAMIC LOADER, MOBILITY RSCH FAC, SINGLE AND MULTIPLE WHEEL LOAD CARTS, SUR EFF BLAST FAC, HIGH&LOW FREQ VIBRATORS, ELECTRON MICROSCOPE, LARGE SCALE CMPT FAC AND TECH LIBRARY.

INSTALLATION: FIELD ARTILLERY BOARD

FT. SILL, OK.

PRES COL BORIS POGOLOFF

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 0.771            | 1.073               |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL D&M             | 0.051            | 0.047               |
| TOTAL OTHER           | 1.931            | 2.123               |
| TOTAL ANNUAL LAB      | 2.753            | 3.243               |
| <br>TOTAL INHOUSE     | 2.753            | 3.243               |
| TOTAL INHOUSE RDT&E   | 0.771            | 1.073               |
| ANNUAL OPERATING COST | 0.249            | 0.249               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 211                    | 0             | 42            | 169          |
| CIVILIAN  | 35                     | 0             | 4             | 31           |
| TOTAL     | 246                    | 0             | 46            | 200          |

| ACRES | SPACE AND PROPERTY               |        |        | COST (MILLION \$) |       |           |
|-------|----------------------------------|--------|--------|-------------------|-------|-----------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN  | OTHER             | TOTAL | REAL PROP |
| 23    | 28.100                           | 32.802 | 17.640 | 78.542            | 3.330 | 1.260     |

...MISSION

PLAN CONDUCT AND REPORT ON DT I DT II DT III AND OTHER USAR-TYPE TESTS  
PARTICIPATE IN DT I DT II AND DT III AS DIRECTED  
PROVIDE ADVICE TO PROPONENT AGENCIES AND DEVELOPERS  
CONDUCT OTHER TESTS AND EVALUATIONS AS DIRECTED BY TRADOC

...CURRENT IMPORTANT PROGRAMS

FOTE TACFIRE  
OPERATIONAL TEST III XM692  
OPERATIONAL TEST III XM483  
OPERATIONAL TEST II OBSERVED FIRE TRAINER  
OPERATIONAL TEST II POSITION AZIMUTH DETERMINING SYSTEM

...FUNCTIONS/EQUIPMENT/CAPABILITIES

ONE MET STATION  
TEST ITEMS ADDITIONAL SUPPORT IS OBTAINED FROM USAFACFS WHEN NEEDED

INSTALLATION: FRANKFORD ARSENAL LABORATORIES

PHILADELPHIA, PA.

CDR LTC FRANK W. HACKLEY

TECH DIR DR SIDNEY ROSS

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 23.535           | 17.245              |
| TOTAL PROCUREMENT     | 113.600          | 61.700              |
| TOTAL OEM             | 21.600           | 7.100               |
| TOTAL OTHER           | 35.900           | 0.000               |
| TOTAL ANNUAL LAB      | 194.635          | 96.045              |
| <br>TOTAL INHOUSE     | 73.536           | 50.945              |
| TOTAL INHOUSE RDT&E   | 17.036           | 9.245               |
| ANNUAL OPERATING COST | 20.221           | 16.759              |

## PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 10                     | 0             | 10            | 0            |
| CIVILIAN  | 1079                   | 33            | 559           | 520          |
| TOTAL     | 1089                   | 33            | 569           | 520          |

| ACR=5 | SPACE AND PROPERTY               |         |         | COST (MILLION \$) |        |                 |
|-------|----------------------------------|---------|---------|-------------------|--------|-----------------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB     | ADMIN   | OTH'R             | TOTAL  | REAL PROP EQUIP |
| 43    | 577.421                          | 149.872 | 425.050 | 1152.343          | 16.960 | 12.549          |

## ...MISSION

COMMONDITY CNTR./SHALL CAL AMMO, FIRE CONTROL SYS, CANNON CAL MUN, DEV & ENG & QA/CASES, ARTIL METAL PARTS, MECH TIME FUZES & IME FUZES & TIMERS, RES & TECH/OPTICAL MAT, NON-FIIRR METAL, MATRL DEGRAD, CORROSION PREV, MAT ENGR, SYNTH LUBS & FLUIDS, LASER COUNTERMEASURE, TMDE, TRACERS.

## ...CURRENT IMPORTANT PROGRAMS

ARMY SMALL AND AUTOM CANNON CAL AMMO RES, DEV, AND ENG PROGRAM  
SMALL CALIBER AMMUNITION MODERNIZATION PROGRAM, SCAMP  
FIRE CONTROL EQ FOR AIRCRAFT, AIR DEF, ARTIL, COMB VH, AND SMALL CAL WEAPS  
TEST MEASUREMENT DIAGNOSTIC EQUIPMENT, TMDE PROGRAM  
RESEARCH AND DEVELOP FOR LASER COUNTERMEASURE AND PROTECTION

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

36 BALLIST TEST RANGES, BALLIST MEAS EQUIP, PHOTOMETRIC TRACER, MICROWAVE INTERFEROMETER, HIGH SPEED HARD & SOFT X-RAY, DOPPLER RADAR, ANECHOIC CHAMB, HOLOGRAPHIC EQ, VERT TEST TOWERS, 4 PADS FOR POINT FUZE DETON, 18 IN HI-G SHOCK MACHINE, 155MM AIR GUN, SPEC IGN & COMBUST EN, RAPID SCAN SPECTROPHOTOMETER, ELECT MICROSCOPE, SPECTROMETER, OPTICAL LAB & DESIGN SHOP, LASER TEST FAC, SOLID STATE PHY LAB, FLCT HEAM VAC FILM DEPOSIT EQUIP, PHOTOLEASTIC STRESS ANAL EQUIP, A-MUSP SIMULATOR, CJC BATCH TERMINALS, HYDRAULIC & MECH POWDER MOLD EQUIP, MICROBIOLOGY LAB, TROP CLIMATE ROOM, DIFF SCAN CALORIMET, PROP PROC LAB, AIRBORNE FIRE CONTROL EQUIP, AUTOMAT CHECK-DUT EQUIP, HUMIDITY & OZONE ROOM, SCAMP MODULES, PILOT TRACER LOAD FAC, RADIO-ISOTYPE LAB, ULTRASONIC MAT TST SYS, LEC MICROPACB, VAC-ARC MELTING FURN, STAT-DYNAM IMPACT TEST, MAIN EN- VEHICLE TEST FAC, LASER PHOTOLYSIS, SPACE SIMULATOR.

INSTALLATION: HARRY DIAMOND LABORATORIES

WASHINGTON, D.C.

CDR COL THOMAS MCGREGOR

TECH. DIR. DR. W.W. CARTER

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 65.282           | 61.845              |
| TOTAL PROCUREMENT     | 49.697           | 38.632              |
| TOTAL O&M             | 26.990           | 24.110              |
| TOTAL OTHER           | 0.970            | 0.417               |
| TOTAL ANNUAL LAB      | 142.939          | 125.004             |
| TOTAL INHOUSE         | 40.452           | 35.626              |
| TOTAL INHOUSE RDT&E   | 30.033           | 30.922              |
| ANNUAL OPERATING COST | 10.443           | 12.191              |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 10                     | 3             | 10            | 0            |
| CIVILIAN  | 1399                   | 72            | 510           | 889          |
| TOTAL     | 1409                   | 75            | 520           | 889          |

| ACRES | SPACE AND PROPERTY               |         |         | COST (MILLION \$) |        |           |
|-------|----------------------------------|---------|---------|-------------------|--------|-----------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB     | ADMIN   | OTHER             | TOTAL  | REAL PROP |
| 2830  | 277.944                          | 177.399 | 397.789 | 952.132           | 33.854 | 28.991    |

...MISSION

RDT&E ON PROXIMITY & ELECTRONIC FUZING/ECM-ECCM CTR/FARM-CM/PATRIOT F-1  
TEMPS/M734/POWER SUPPLIES/NUC WPNS EFFECTS/TREE/INTERNAL & EXTERNAL  
SPEC PURPOSE RADARS/FLUIDICS/M1140 LANCE FUZE/X4732 SHORT INTRUSION

...CURRENT IMPORTANT PROGRAMS

INFLUENCE TIME AND COMMAND FUZING/TARGET DETECTION AND SIGNATURE ANALYSIS/TARGET INTERCEPT PHASE OF TERM GUID/WEAPON SYS SYNTHESIS&ANALYSIS/ECCM&NUC EFFECTS & OTHER SEVERE ENV/FLUIDICS & MED ENG/INSTRUMENTATION& SIMULATION/COMPONENTS&MATERIALS/INDUSTRIAL & MAINTENANCE ENGINEERING

...FUNCTIONS/EQUIPMENT/CAPABILITIES

SIMULATORS TO DETERMINE SUSCEPTIBILITY OF WPNS TO NUCLEAR WPNS EFFECT & TO HARDEN DESIGNS/PULSED NUCLEAR REACTOR & HIGH INTENSITY X-RAY/EY-TREMELY LARGE DOSE & VOLUME GAMMA RAY GEN AURORA & BICONIC EMP DEVICE & ENVIRONMENT SIMULATION/ARTILLERY SIMULATOR TO EVALUATE EFFECTS OF FIRING RANGE/RADAR TEST SITE/HIGH PRESS SHOCK TUNES MERCURY ARC PLASMA TUBE & OPTICAL & SPECTROSCOPIC EQUIPMENT/ECM VULNERABILITY ANALYSES/CTR MEASURE EQUIPMENT DEVELOPMENT/TECHNICAL INTELLIGENCE STUDIES/MICROCIRCUIT FABRICATION/HIGH-G ELECTRONICS/LATITUDE MAGNETIC SIMULATOR FOR ANTITANK SIGNATURE ANALYSIS/ANTENNA TEST/LARGE TRANSPORTABLE EMP SIMULATOR T MPS FOR HIGH ALT & THRLAT LEVELS

INSTALLATION: HUMAN ENGINEERING LABORATORY

ABERDEEN PROV GR, MD.

DIR. DR. JOHN D. WEISZ

EXEC. LTC RICHARD D. KAVANAUGH

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976     |      | 1977<br>(ACT + EST) |
|-----------------------|----------|------|---------------------|
|                       | (ACTUAL) | 1977 |                     |
| TOTAL RDT&E           | 7.198    |      | 6.361               |
| TOTAL PROCUREMENT     | 0.060    |      | 0.000               |
| TOTAL C&M             | 0.177    |      | 0.260               |
| TOTAL OTHER           | 0.437    |      | 0.387               |
| TOTAL ANNUAL LAE      | 7.872    |      | 7.006               |
| TOTAL INHOUSE         | 5.722    |      | 5.545               |
| TOTAL INHOUSE RDT&E   | 5.071    |      | 4.898               |
| ANNUAL OPERATING COST | 0.732    |      | 0.892               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 30                     | 1             | 11            | 19           |
| CIVILIAN  | 141                    | 18            | 89            | 52           |
| TOTAL     | 171                    | 19            | 100           | 71           |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |        |        | COST (MILLION \$) |           |       |
|-------|----------------------------------|--------|--------|-------------------|-----------|-------|
|       | LAB                              | ADMIN  | OTHER  | TOTAL             | REAL PROP | EQUIP |
| 10    | 30.776                           | 19.352 | 29.538 | 79.666            | 0.761     | 3.250 |

...MISSION

CONDUCTS FUNDAMENTAL AND APPLIED RESEARCH IN HUMAN FACTORS ENGINEERING  
PROVIDES DIRECT DESIGN SUPPORT TO ALL MATERIEL DEVELOPMENT PROGRAMS SPON-  
SORED BY DARCOM HED DETACHMENTS EST AT PA, FA, RIA, EA, AMSAA, TACOM, MDCOM  
SERV.S AS LEAD LAB ARMY R&D TECHNOLOGY-HUMAN FACTORS ENGINEERING

...CURRENT IMPORTANT PROGRAMS

HUMAN ENGINEERING LAB ARMOR SYSTEMS TESTS  
MILITARY OPERATIONS IN BUILT-UP AREAS  
HUMAN ENGINEERING LAB ARTILLERY TESTS  
HUMAN FACTORS ENG IN SPT OF ALL MATERIEL BEING DEV BY DARCOM  
HEARING PERFORMANCE R. QUIR MENTS ARMY PERSONNEL

...FUNCTIONS/EQUIPMENT/CAPABILITIES

DATA ACQUISITION AND TELEMETRY SYSTEM  
GAT 24 HELICOPTER SIMULATOR  
COMMAND CONTROL SIMULATOR SYS AND TEST FACILITY  
ACOUSTICAL RSRCH ANECHOIC CHAMBER REVERBERANT ROOM  
LONG RANGE POSITIONED DETERMINING SYS  
INSTRUMENTED PHYSICAL ENCLOSURE CCUPSE  
EYE MOVEMENT MEASURING DEVICE  
SMALL ARMS TEST FIRING RANGE  
NOISE MEASUREMENT AND ANALYSIS INSTRUMENTATION  
WOOD AND METAL WORKING TEST SUPPORT CAPABILITY  
HUMAN PERFORMANCE DATA BANK  
ARMOR TEST SITE

INSTALLATION: INFANTRY BOARD

FT. BENNING, GA.

PRES. COL WALTER E. MEINZEN

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 1.207            | 1.617               |
| TOTAL PROCUREMENT     | 0.100            | 0.218               |
| TOTAL C&M             | 0.098            | 0.019               |
| TOTAL OTHER           | 1.739            | 1.575               |
| TOTAL ANNUAL LAB      | 3.144            | 3.429               |
| TOTAL INHOUSE         | 3.144            | 3.429               |
| TOTAL INHOUSE RDT&E   | 1.207            | 1.617               |
| ANNUAL OPERATING COST | 1.090            | 1.167               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 109                    | 0             | 7             | 102          |
| CIVILIAN  | 56                     | 0             | 4             | 52           |
| TOTAL     | 165                    | 0             | 11            | 154          |

| ACRES | SPACE AND PROPERTY |        |        | COST (MILLION \$) |           |       |
|-------|--------------------|--------|--------|-------------------|-----------|-------|
|       | LAB                | ADMIN  | OTHER  | TOTAL             | REAL PROP | EQUIP |
| 10    | 0.000              | 39.237 | 66.133 | 105.370           | 0.900     | 0.357 |

...MISSION

PLAN CONDUCT REPORT ON OPERATIONAL TEST 1/2/3 FORCE DEVELOPMENT TESTS & OTHER USER TESTS. PARTICIPATE IN DEVELOPMENTAL TEST 1/2/3. PROVIDE ADVICE TO PROONENT AGENCIES & MATERIEL DEVELOPERS ON EQUIP USED BY OR PROVIDED SPT TO INFANTRYMEN. DATA & INFO DERIVED DIRECT FR TEST EXPERIENCE IS BASIS.

...CURRENT IMPORTANT PROGRAMS

PERSONNEL ARMOR SYSTEM FOR GROUND TROOPS

WEAPONEER/LASERTRAIN

COLLECTIVE COLLECTION FOR COMMAND CONTROL & COMMUNICATION ACTIVITIES

DRAGON LAUNCH SIMULATOR

DRAGON AN/TAS-5 NIGHT TRACKER

...FUNCTIONS/EQUIPMENT/CAPABILITIES

EQUIPMENT & ANCILLARY ITEMS TO BE USED BY INF UNITS FOR COMMAND & CONTROL FIRE POWER TARGET ACQUISITION GROUND SURVEILLANCE FIRE CONTROL GROUND MOBILITY & TRAINING. CLOTHING & EQUIP FOR INDIVIDUALS. RATIONS COOKING & MESSING EQUIP. ANTI-PERSONNEL MINES & RELATED EQUIP. CLOTHING EQUIP RATIONS WORN OR CARRIED BY INDIVIDUAL PARACHUTISTS WHILE JUMPING FROM AIRCRAFT & CARRIED BY INDIVIDUAL AFTER CLEARING DROP ZONE. CHEMICAL WARFARE-BIOLOGICAL WARFARE EQUIP FOR INDIVIDUALS.

INSTALLATION: INSTITUTE OF DENTAL RESEARCH

WASHINGTON, D.C.

CDR COL DUANE E. CUTRIGHT

TECH DIR DR. GINO BATTISTONE

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 0.827            | 0.900               |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL OEM             | 0.080            | 0.115               |
| TOTAL OTHER           | 1.033            | 1.121               |
| TOTAL ANNUAL LAB      | 1.940            | 2.136               |
| TOTAL INHOUSE         | 1.940            | 2.136               |
| TOTAL INHOUSE RDT&E   | 0.827            | 0.900               |
| ANNUAL OPERATING COST | 0.139            | 0.139               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 62                     | 23            | 45            | 17           |
| CIVILIAN  | 26                     | 2             | 7             | 19           |
| TOTAL     | 88                     | 25            | 52            | 36           |

| ACRES | SPACE AND PROPERTY               |       |       | COST (MILLION \$) |           |       |
|-------|----------------------------------|-------|-------|-------------------|-----------|-------|
|       | SPACE (THOUSANDS OF SQUARE FEET) |       |       | TOTAL             | REAL PROP | EQUIP |
| LAB   | ADMIN                            | OTHER |       |                   |           |       |
| 4     | 9.325                            | 5.696 | 6.730 | 21.751            | 0.853     | 1.118 |

...MISSION

TO CONDUCT RSCH IN THE ETIOLOGY, PREVENTION AND CONTROL OF ORAL DISEASES AND SIMPLIFIED TECHNIQUES FOR RAPID AND EFFECTIVE DENTAL TREATMENT.

...CURRENT IMPORTANT PROGRAMS

HYDROSCRUB: PRESURGICAL ARM AND HAND SCRUBBER DEVELOPMENT AND TESTING OF BIODEGRADABLE LACTIC ACID DERIVED COPOLYMERS. RAPID METHOD OF COLD STERILIZATION. NEW METHOD FOR INCREASING PORCELAIN TO BASE METAL STRENGTH LASER REPAIR AND FABRICATION OF ORAL PROSTHESIS AND FRACTURAL FIXATION.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

DETERMINE PHYSICAL, CHEMICAL, AND MECHANICAL PROPERTIES OF METALS, ALLOYS, CERAMICS, PLASTICS, AND POLYMERS, TO INCLUDE STRESS TESTING AND ELECTRON MICROSCOPIC EVALUATION. CONDUCT EXPERIMENTAL RSCH IN MICROBIOLOGY, BIOCHEMISTRY, IMMUNOLOGY, RADIATION MEDICINE, AND PHARMACOLOGY. TEST AND EVAL FACETS OF CLINICAL DENTISTRY, TO INCLUDE CLINICAL AND LABORATORY TECHNIQUES. PREPARE AND ANALYSE HISTOPATHOLOGIC SPECIMENS AND PERFORM DIFFERENTIAL DIAGNOSTIC EVALUATION ON THEM. PERFORM MOST FACETS OF ANIMAL SURGERY REQUIRED TO SUPPORT RESEARCH EFFORT.

INSTALLATION: INSTITUTE OF SURGICAL RESEARCH

FT. SAM HOUSTON, TX.

CDR COL BASIL A. PRUITT JR

TECH DIR CR ARTHUR D. MASON JR

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 1.635            | 1.750               |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL C&M             | 0.000            | 0.000               |
| TOTAL OTHER           | 1.918            | 1.971               |
| TOTAL ANNUAL LAB      | 3.553            | 3.721               |
| TOTAL INHOUSE         | 3.553            | 3.721               |
| TOTAL INHOUSE RDT&E   | 1.635            | 1.750               |
| ANNUAL OPERATING CCST | 0.180            | 0.200               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 136                    | 19            | 21            | 115          |
| CIVILIAN  | 78                     | 3             | 7             | 71           |
| TOTAL     | 214                    | 22            | 28            | 186          |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |        |        | COST (MILLION \$) |           |       |
|-------|----------------------------------|--------|--------|-------------------|-----------|-------|
|       | LAB                              | ADMIN. | OTHER  | TOTAL             | REAL PROP | EQUIP |
| 1     | 26.424                           | 1.800  | 22.408 | 50.632            | 2.013     | 1.681 |

...MISSION

TO PERFORM STUDIES ON THE PATHOGENESIS, DIAGNOSIS, PROPHYLAXIS, TREATMENT, AND EPIDEMIOLOGY OF NATURALLY OCCURRING INFECTIOUS DISEASES OF MIL IMPORTANCE AGAINST BIOLOGICAL AGENTS AND ON THOSE MICRO-ORGANISMS WHICH REQUIRE SPECIAL CONTAINMENT FACILITIES.

...CURRENT IMPORTANT PROGRAMS

BURN INFECTION, TREATMENT AND PREVENTION

STUDY OF POST BURN HYPERMETABOLISM AND ENDOCRINOLOGY

CIRCULATORY DYNAMICS OF BURN INJURY AND RESUSCITATION

LEUKOCYTE DEFENSE MECHANISMS AFTER BURN INJURY

PATHOPHYSIOLOGY OF PULMONARY INJURY ASSOCIATED WITH BURNS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

OPERATES 60 BEDS FOR SERIOUSLY BURNED AND INJURED PATIENTS. PROVIDES CLINICAL LABORATORY SUPPORT AND RSCH CAPABILITY IN THE FIELDS OF PATHOLOGY, INCLUDING USE OF ELECTRON MICROSCOPE, MICROBIOLOGY, EXPERIMENTAL SURGERY, PHYSIOLOGY AND BIOCHEMISTRY. MAINTAINS AN ANIMAL COLONY, ELECTRONIC SHOP, MACHINE SHOP, SURGICAL LIBRARY, METABOLIC CHAMBER, AND COMPUTER FACILITY.

INSTALLATION: KWAJALEIN MISSILE RANGE, MARSHALL ISLANDS APD SAN FRANCISCO

DIR COL G.D. SISSON

DEP DIR MR O.E. OVA

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 89.271           | 92.678              |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL U&M             | 0.000            | 0.000               |
| TOTAL OTHER           | 0.695            | 0.750               |
| TOTAL ANNUAL LAB      | 89.966           | 93.428              |
| TOTAL INHOUSE         | 4.657            | 4.695               |
| TOTAL INHOUSE RDT&E   | 3.962            | 3.945               |
| ANNUAL OPERATING COST | 3.250            | 3.300               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 29                     | 0             | 12            | 17           |
| CIVILIAN  | 115                    | 0             | 43            | 72           |
| TOTAL     | 144                    | 0             | 55            | 89           |

| ACRES | SPACE AND PROPERTY               |         |          | COST (MILLION \$) |         |                 |
|-------|----------------------------------|---------|----------|-------------------|---------|-----------------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB     | ADMIN    | OTHER             | TOTAL   | REAL PROP EQUIP |
| 1491  | 0.000                            | 210.232 | 2625.077 | 2835.309          | 233.788 | 133.239         |

...MISSION

MANAGE, DIRECT, CONTROL AND COORDINATE OVERALL ACTIVITIES OF THE KWAJALEIN MISSILE RANGE IN ACCORDANCE WITH DOD NATIONAL RANGE POLICIES.  
SERVE AS THE PRINCIPAL ADVISOR FOR ALL MATTERS PERTAINING TO THE KMR RELATIONSHIP WITH THE TRUST TERRITORY OF THE PACIFIC ISLANDS.

...CURRENT IMPORTANT PROGRAMS

BALLISTIC MISSILE DEFENSE R&D TESTING  
ADVANCED BALLISTIC REENTRY SYSTEMS-USAF SAMSD-R&D TESTING  
MINUTEMAN III-USAF SAMSD R&D TESTING  
MINUTEMAN II AND MINUTEMAN III-USAF SAC-OPERATIONAL TESTING  
TRIDENT OPERATIONAL TESTING

...FUNCTIONS/EQUIPMENT/CAPABILITIES

ALCOR, ALTAIR, TRADEX, 2-AN/MPS-36 AND AN/TPQ-18 RADARS. 8 CINETHODOLITES, 8 BALLISTIC CAMERAS, 4 SPECTRAL CAMERAS & FIXED CAMERAS. PHOTO LABORATORY. S-BAND TELEMETRY COMPLEX INCLUDING 8 AUTOTRACKING ANTENNAS, RECEIVE AND RECORD SYSTEM, DATA SEPARATION & DISPLAY SYSTEM, DATA DISTRIBUTION SYSTEM WITH CAPABILITY FOR RECEIVING RECORDING AND PROCESSING PCM/FM, PCM/FM/FM, POM/FM/FM, POM/FM, PAM/FM/PM. SPLASH DETECTION RADARS WITH IMPACT TIMING SYSTEM. RV RECOVERY SYSTEM. LONG-HAUL & INTRA-ATOLL COMM SYSTEM. METEORLOGICAL SYSTEM. FREQUENCY CONTROL & ANALYSIS SYSTEM. CALIBRATION LABORATORY. TIMING & COUNTDOWN SYSTEM. LAUNCH/ORDNANCE CAPABILITY. COMMAND & CONTROL CENTER. 7600/6400 CENTRAL DATA PROCESSING CENTER. POSITION NAVIGATION SYSTEM. CLOSED CIRCUIT TELEVISION SYSTEMS. DATA REDUCTION AND ACCURACY ANALYSIS FACILITY.

INSTALLATION: LETTERMAN ARMY INSTITUTE OF RESEARCH

PRESIDIO, S.F., CAL.

CDR COL JOHN E. CANHAM

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 6.227            | 6.260               |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL OEM             | 0.000            | 0.000               |
| TOTAL OTHER           | 2.870            | 3.678               |
| TOTAL ANNUAL LAB      | 9.097            | 9.936               |
| <br>TOTAL INHOUSE     | <br>9.097        | <br>9.938           |
| TOTAL INHOUSE RDT&E   | 6.227            | 6.260               |
| ANNUAL OPERATING COST | 2.615            | 2.400               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 260                    | 20            | 102           | 158          |
| CIVILIAN  | 201                    | 18            | 61            | 140          |
| TOTAL     | 461                    | 38            | 163           | 298          |

| ACRES | SPACE AND PROPERTY               |         |         | COST (MILLION \$) |        |           |
|-------|----------------------------------|---------|---------|-------------------|--------|-----------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB     | ADMIN   | OTHER             | TOTAL  | REAL PROP |
| 5     | 119.520                          | 116.792 | 103.584 | 339.896           | 42.449 | 9.048     |

...MISSION

TO PROVIDE GEN MED RSCH CAPABILITY AND CONDUCT RSCH IN AREAS OF NUTRITION, EFF OF LASERS, EXPR PSYCHOLOGY. SUPPORTS CLINICAL INVESTIGATION PROJECTS RECOMMENDED BY CMUR, LETTERMAN ARMY MED CENTER AND CTHR RSCH ACTIVITIES AS DIR BY CMDR US ARMY MED RSCH AND DEVELOPMENT COMMAND.

...CURRENT IMPORTANT PROGRAMS

RESUSCITATION SOLUTIONS FOR THE ACUTELY INJURED. APPLIED NUTRITION STUDIES OF DOD PERSONNEL. ADVERSE EFFECTS ON HUMAN SKIN BY ENVIRONMENTAL FACTORS AND INFECTIOUS AGENTS. DETERMINATION OF SAFE THRESHOLD LEVELS OF COHERENT RADIATION. METABOLIC ADAPTATION AND METABOLIC INTERRELATIONSHIP.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

MAJCR EQUIP AND FACILITIES INCLUDE HUMAN METABOLIC WARD, SURGICAL OPERATING ROOMS, ENVIRONMENTAL ROOMS, GERM-FREE ANIMALS, SCANNING AND TRANSMISSION MICROSCOPES, AUTO ANALYSERS AND RECORDERS, INCLUDING AUTO BETA AND GAMMA COUNTERS, SHADOW SHIELD WHOLE BODY COUNTER, GAMMA CAMERA, AUTO AMINO ACID ANALYZERS, AND MASS SPECTROMETER. RSCH INCLUDE: NUTR SURVEYS AND RATION TESTING, BIOMED CMPT RSCH, BASIC AND APPLIED STUDIES OF TRACE MINERAL METABOLISM, EXER AND FATIGUE IN MAN AND MILITARY DOG. STUDIES OF DELAYED HYPERSENSITIVITY, FRICTION BLISTERS, STUDIES ON BLOOD PRESERVATION, OPTIONAL STORAGE CONDITIONS AND CELL FREE RESUSCITATION, FUNGAL SKIN DIS., PROLONGED WATER IMMERSION, AND PRICKLY HEAT. MAINTAINS BREEDING COLONIES-SPECIAL ANIMAL STRAINS.

INSTALLATION: MATERIAL SYSTEMS ANALYSIS AGENCY

ABERDEEN PROV GR.MD

DIR. DR. JOSEPH SPERRAZZA

C.O. AND DEP. DIR. CCL R.D. POWELL

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 17.406           | 17.900              |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL O&M             | 2.103            | 1.793               |
| TOTAL OTHER           | 0.000            | 0.000               |
| TOTAL ANNUAL LAB      | 19.509           | 19.693              |
| TOTAL INHOUSE         | 13.180           | 13.318              |
| TOTAL INHOUSE RDT&E   | 11.678           | 12.200              |
| ANNUAL OPERATING COST | 1.322            | 1.505               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 29                     | 0             | 21            | 8            |
| CIVILIAN  | 418                    | 15            | 316           | 102          |
| TOTAL     | 447                    | 15            | 337           | 110          |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |        |       | COST (MILLION \$) |           |       |
|-------|----------------------------------|--------|-------|-------------------|-----------|-------|
|       | LAB                              | ADMIN  | OTHER | TOTAL             | REAL PROP | EQUIP |
| 3     | 13.083                           | 91.994 | 1.725 | 106.792           | 2.308     | 0.360 |

...MISSION

TO PROVIDE THE CENTRAL INDEPENDENT TECHNICAL CAPABILITY IN DARCOM FOR THE CONDUCT OF MAJOR SYSTEMS ANALYSIS AND COST EFFECTIVENESS STUDIES. TO DESIGN DEVELOPMENT TESTS AND CONDUCT INDEPENDENT EVALUATIONS OF MAJOR MATERIEL SYSTEMS. LEAD ACTIVITY FOR SURVIVABILITY. ADMINISTER JTCG/ME.

...CURRENT IMPORTANT PROGRAMS

AAH  
AN/TSQ  
XM 1  
MICV S  
UTTAS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

CONDUCT AMC WPN SYS ANALYSIS AND EVAL OF MATERIAL CONCEPTS AND PROPOSALS DEVELOPS, IMPROVES, AND DISSEMINATES METHODOLOGY AND TECHNIQUES FOR CONDUCT OF SYS ANALYSIS, ANAL OF PERFORMANCE, SCHEDULE AND COST RISKS, DESIGN, CONDUCT AND EVAL OF TESTS. EVAL LIFE CYCLE REQ OF MATERIAL SYS. CONDUCTS TACTICAL, OPERATIONAL ANALYSIS OF WPN AND MATERIAL SYSTEMS. RELIABILITY, AVAILABILITY AND MAINTAINABILITY CENTER FOR ARMY SYS. TECH DIR OF AMC SURVEILLANCE PROGRAM FOR STOCKS OF ARMY MISSLES, NUCLEAR, AND NONNUCLEAR AMMUNITION. PROVIDE TECH CCRR, DATA, AND ANALYSIS FOR DETERMINATION OF JOINT SERVICES MUNITIONS EFFECTIVENESS MODELS AND MANUALS.

INSTALLATION: MATERIALS AND MECHANICS RESEARCH CENTER                    WATERTOWN, MASS.

DIR DR E.S. WRIGHT

DEP DIR LTC E.E. CHICK

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976     | 1977        |
|-----------------------|----------|-------------|
|                       | (ACTUAL) | (ACT + EST) |
| TOTAL RDT&E           | 22.486   | 22.161      |
| TOTAL PROCUREMENT     | 7.454    | 7.143       |
| TOTAL O&M             | 2.369    | 2.493       |
| TOTAL OTHER           | 0.000    | 0.000       |
| TOTAL ANNUAL LAB      | 32.309   | 31.797      |
| TOTAL INHOUSE         | 19.402   | 17.337      |
| TOTAL INHOUSE RDT&E   | 13.801   | 11.951      |
| ANNUAL OPERATING COST | 4.523    | 4.451       |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 16                     | 2             | 7             | 9            |
| CIVILIAN  | 641                    | 64            | 204           | 437          |
| TOTAL     | 657                    | 66            | 211           | 446          |

| ACRES | SPACE AND PROPERTY               |        |         | COST (MILLION \$) |         |           |        |
|-------|----------------------------------|--------|---------|-------------------|---------|-----------|--------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN   | OTHER             | TOTAL   | REAL PROP | EQUIP  |
| 48    | 389.161                          | 96.018 | 169.979 |                   | 655.158 | 15.726    | 15.962 |

...MISSION

MANAGE DARCOM R&D STRUCTURAL MATERIALS & MECH PROGRAM AS LEAD LAB FOR MATERIALS, SOLID MECH & TESTING TECHNOLOGY. CONDUCT TECHNOLOGICAL PROGRAMS IN MAT & MECH USED IN ARMY MATERIEL. EXECUTES PROGRAM IN OWN FACILITIES & BY ASSIGNMENT & FUND TRANSFER TO OTHER DARCOM LABORATORIES & CONTRACTORS

...CURRENT IMPORTANT PROGRAMS

BASIC RESEARCH IN MATERIALS AND MECHANICS  
ADVANCED MATERIALS FOR AIRCRAFT  
ADVANCED MATERIALS FOR ARMOR  
ADVANCED MATERIALS FOR ARMAMENT  
ADVANCED MATERIALS FOR LASER HARDENING

...FUNCTIONS/EQUIPMENT/CAPABILITIES

MANAGE DARCOM R&D PROG IN MATERIALS & MECH & CONDUCT TECH PROGS IN MATERIALS SYSTEMS & MECHANICS DIRECTED TO ARMY MATERIEL. MANAGE DOD PROG AS EXECUTIVE AGENT-ARMOR TECHNOLOGY. MANAGE & CONDUCT INTEGRATED & DIRECTED BASIC & APPLIED RES CN MATERIALS SUCH AS METALS, CERAMICS, ORGANIC & IN-ORGANIC POLYMERS & COMPOSITES. MANAGE & CONDUCT THEORETICAL & APPLIED STUDIES CN MECH OF MATLS & SYSTEMS. IDENTIFY & INVESTIGATE BASIC FACTORS INVOLVED IN PROC & APPL OF NEW & IMPROVED MATLS. TECH MANAGE FOUR INFO ANAL CEN. ASST IN DESIGN & DEV OF PROTOTYPES. DEV METHODS FOR TEST & EVAL OF MATS & STRUCTURES. MANAGE ARMY PORTION DEFENSE STANDARDIZATION PROG. CONDUCT ENGINEERING STANDARDIZATION EFFORT. MANAGE DARCOM MATERIALS TESTING PROGRAM. CONDUCT PEMA MANUFACTURING METHODS & TECHNOLOGY PROGRAMS & ADVISE COMMAND & INDUSTRY CN PROCESSING TECHNIQUES.

INSTALLATION: MATERIEL TESTING DIRECTORATE

ABERDEEN PROV GR, MD.

CDR COL ALVIN D. UNGERLEIDER

ASSOC. CDR. MR B.C. SISSON

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 25.548           | 25.072              |
| TOTAL PROCUREMENT     | 6.760            | 6.635               |
| TOTAL C&M             | 0.947            | 0.930               |
| TOTAL OTHER           | 2.226            | 2.783               |
| TOTAL ANNUAL LAB      | 35.481           | 35.420              |
| TOTAL INHOUSE         | 35.110           | 35.049              |
| TOTAL INHOUSE RDT&E   | 25.258           | 24.782              |
| ANNUAL OPERATING COST | 15.461           | 18.333              |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 265                    | 1             | 31            | 234          |
| CIVILIAN  | 954                    | 5             | 194           | 760          |
| TOTAL     | 1219                   | 6             | 225           | 994          |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |       |         | COST (MILLION \$) |           |        |
|-------|----------------------------------|-------|---------|-------------------|-----------|--------|
|       | LAB                              | ADMIN | OTHER   | TOTAL             | REAL PROP | EQUIP  |
| 25048 | 694.300                          | 4.351 | 296.170 | 994.821           | 18.000    | 29.000 |

...MISSION

PLAN CDT & REPT TESTS OF WPNS WPN SYS RRTS & GM SYS FIRE CON & TGT ACQ EQUIP ITEMS OF AMMO & MUN COMPONENTS CBT VEH OTHER AUTO MAT GEN EQUIP SUCH AS GENERATORS & AIR CONDS PROC INSP & CON ISSUE OF ARMOR PLATE FOR ALL. DARCOM AMMO TEST PROV SUPPORT SVCS TO AFS ELEMENTS & SUPPORTED CMDS

...CURRENT IMPORTANT PROGRAMS

DT I OF LEOPARD 2 TANK (FRG)

ED OF ARMOR XM1 TANK SYS PROTECTION PLAN

DT II OF MECHANIZED INFANTRY COMBAT VEH MICV XM723

DT II OF XM198 155MM HOW TOWED AND PROPELLING CHARGES XM123 & XM164

DT II OF LACV-30

...FUNCTIONS/EQUIPMENT/CAPABILITIES

TEST AREA 58000 ACRES.RANG. TO LAND IMPACT 21000 M.RANGE TO WATER IMPACT 30000 M.41 MI SF AUTMV CRS INCL 27 SP ENGR TEST CRS & OBSTACLES.VARIETY OF ENVIR OR CNDN EQUIP.SP CHAMBERS FOR SUBJECTING EQUIP TO DUST SALT SPRAY OR SOLAR RADN.ISOLATED VIBRATION TEST FAC WHICH PERMITS SHAKING EXPLO EQUIP SIMULTANEOUSLY WITH TEMP CONDITIONING FAC FOR CONTROLLED TESTS OF ELEC CON & GUIDANCE EQUIP.FIRE SCURCE WHICH PERMITS TESTING ALL TYPES OF MAT IN PRESENCE OF HIGH INTENSITY ELEC MAGNETIC RADN. SP FAC FOR TEST OF ARMOR PLATE.SP VEL & TGT EQUIP IS AVAL FOR OBSERVATIONS DURING RAPID FIRE AS IS A RKT TRACK FOR CONTROLLED TERMINAL BALLISTIC TESTS.FAC AVAL FOR TESTS OF SP ELECTRONIC & FIRE CON EQUIP & RELATED SYSTEMS & COMPONENTS.

INSTALLATION: MEDICAL BIOENGINEERING R&D LABORATORY

FORT DIETRICK, MD.

CDR COL CHARLES R. ANGEL

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 2.836                                    | 2.532               |
| TOTAL PROCUREMENT     | 0.000                                    | 0.000               |
| TOTAL OEM             | 0.000                                    | 0.000               |
| TOTAL OTHER           | 0.593                                    | 0.494               |
| TOTAL ANNUAL LAB      | 3.429                                    | 3.026               |
| TOTAL INHOUSE         | 3.429                                    | 3.026               |
| TOTAL INHOUSE RDT&E   | 2.836                                    | 2.532               |
| ANNUAL OPERATING COST | 0.924                                    | 0.815               |

| PERSONNEL | PERSONNEL DATA (END OF FY 1976) |               | NON-<br>PROF |
|-----------|---------------------------------|---------------|--------------|
|           | AUTHORIZED<br>STRENGTH          | TOTAL<br>PHDS |              |
| MILITARY  | 27                              | 10            | 27           |
| CIVILIAN  | 61                              | 12            | 34           |
| TOTAL     | 108                             | 22            | 61           |

| ACRES | SPACE AND PROPERTY               |        |        | COST (MILLION \$) |       |           |
|-------|----------------------------------|--------|--------|-------------------|-------|-----------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN  | OTHER             | TOTAL | REAL PROP |
| 5     | 44.325                           | 27.300 | 35.631 | 107.256           | 2.918 | 2.157     |

...MISSION

TO CONDUCT ENGINEERING RSCH AND DEV OF MIL MED EQUIP ON CONTINUING BASIS FOR ARMY AND ON AS R&D BASIS FOR NAVY AND AIRFORCE. CONDUCTS RSCH AND EXPLORATORY DEV OF MATERIEL DEVICES FOR INTERNAL AND EXTERNAL BIOMECHANICAL APPLICATIONS OF SPECIALIZED MILITARY AND MED INTEREST.

...CURRENT IMPORTANT PROGRAMS

DEVELOPMENT OF ENVIRONMENTAL QUALITY STANDARDS FOR INSTALLATION RESTORATION. INDUSTRIAL HYGIENE-OCCUPATIONAL HEALTH RSCH STUDIES RELATED TO MILITARY ACTIVITIES. PILOT PLANT DEVELOPMENT FOR FULL-SCALE DESIGN OF MUST WATER PROCESSING ELEMENT. FIELD MEDICAL DEVICES AND LABORATORY EQUIPMENT. REDESIGN OF MUST EQUIPMENT.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

MAJOR EQUIP AND FACILITIES INCLUDE HUMAN METABOLIC WARD, SURGICAL OPERATING ROOMS, ENVIRONMENTAL ROOMS, GERM-FREE ANIMAL, SCANNING AND TRANSMISSION ELECTRON MICROSCOPES, AUTO ANALYZERS AND RECORDERS INCLUDING AUTO BETA AND GAMMA COUNTERS, SHADOW SHIELD WHOLE BODY COUNTER, GAMMA CAMERA, AUTO AMINO ACID ANALYZERS, AND MASS SPECTROMETER. RSCH INCLUDE NUTR SURVEYS AND RATION TESTING, BIOMED CMPT RSCH, BASIC AND APPLIED STUDIES OF TRACE MINERAL METABOLISM, EXERCISE AND FATIGUE IN MAN AND MILITARY DOG.

INSTALLATION: MEDICAL RESEARCH INST OF INFECTIOUS DISEASES FORT DETRICK, MD

CDR COL JOSEPH F. METZGER

TECH DIR DR WILLIAM R. BEISEL

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 7.207            | 7.513               |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL OEM             | 0.000            | 0.000               |
| TOTAL OTHER           | 3.110            | 4.050               |
| TOTAL ANNUAL LAB      | 10.317           | 11.563              |
| <br>TOTAL INHOUSE     | 10.317           | 11.563              |
| TOTAL INHOUSE RDT&E   | 7.207            | 7.513               |
| ANNUAL OPERATING COST | 1.477            | 1.600               |

| PERSONNEL | AUTHORIZED<br>STRENGTH | PERSONNEL DATA (END OF FY 1976) |               | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------------------------|---------------|---------------|---------------|--------------|
|           |                        | TOTAL                           | TOTAL<br>PROF |               |               |              |
| MILITARY  | 315                    | 48                              | 56            | 259           |               |              |
| CIVILIAN  | 198                    | 24                              | 63            | 135           |               |              |
| TOTAL     | 513                    | 72                              | 119           | 394           |               |              |

| ACRES | SPACE AND PROPERTY               |        |         | COST (MILLION \$) |           |       |
|-------|----------------------------------|--------|---------|-------------------|-----------|-------|
|       | SPACE (THOUSANDS OF SQUARE FEET) |        |         | TOTAL             | REAL PROP | EQUIP |
|       | LAB                              | ADMIN  | OTHER   |                   |           |       |
| 43    | 80.854                           | 19.820 | 209.699 | 310.373           | 17.824    | 3.900 |

...MISSION

TO PERFORM STUDIES ON PATHOGENESIS, DIAGNOSIS, PROPHYLAXIS, TREATMENT, AND EPIDEMIOLOGY OF NATURALLY OCCURRING INFECTIOUS DISEASES OF MILITARY IMPORTANCE AGAINST BIOLOGICAL AGENTS AND ON THOSE MICRO-ORGANISMS WHICH REQUIRE SPECIAL CONTAINMENT FACILITIES.

...CURRENT IMPORTANT PROGRAMS

DEVELOPMENT OF NEW VACCINES AND TOXOIDS. IMMUNOLOGICAL STUDIES TO DETERMINE HOW TO IMPROVE VACCINE PROTECTION. STUDIES ON PATHOGENESIS OF MILITARILY IMPORTANT INFECTIONS. DEVELOPMENT OF MORE RAPID AND ACCURATE METHODS OF INFECTION DIAGNOSIS AND MEDICAL THERAPY FOR BW DEFENSE.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

TWO LARGE BUILDINGS PROVIDE ABOUT 300,000 SQUARE FEET OF SPACE AND CONTAIN TWENTY THREE MODERN LABORATORY SUITES WHICH REPRESENT THE LATEST IN FUNCTIONAL CONCEPTS, LABORATORY DESIGN AND SAFETY. A COMPLEX PROGRAM OF MEDICAL RSCH IS CONDUCTED AND INCLUDES IMMUNOLOGY, PATHOLOGY, PHYSIOLOGY, SEROLOGY, BIOCHEMISTRY, BIOPHYSICS, MOLECULAR BIOLOGY, AND TISSUE CULTURE. SPECIAL CAPABILITIES INCLUDE A VACCINE PRODUCTION SUITE, HOSPITAL FACILITIES FOR MEDICAL PATIENTS AND FOR RSCH STUDIES WITH VOLUNTEERS. USAMRIID RSCH IS SUPPORTED BY TWO COMPUTERS AND AN ANIMAL FARM.

INSTALLATION: MISSILE RES., DEV. AND ENGINEERING LAB                    REDSTONE ARSENAL, AL.

CDR MG GEORGE E. TURNMEYER                    DIR DR. JOHN L. McDANIEL

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 88.523                                   | 85.724              |
| TOTAL PROCUREMENT     | 14.816                                   | 11.249              |
| TOTAL OEM             | 6.044                                    | 5.614               |
| TOTAL OTHER           | 1.485                                    | 1.292               |
| TOTAL ANNUAL LAB      | 110.868                                  | 103.879             |
| TOTAL INHOUSE         | 57.551                                   | 50.696              |
| TOTAL INHOUSE RDT&E   | 38.599                                   | 36.491              |
| ANNUAL OPERATING COST | 8.636                                    | 8.750               |

| PERSONNEL | PERSONNEL DATA (END OF FY 1976) |               | NON-<br>PROF |
|-----------|---------------------------------|---------------|--------------|
|           | AUTHORIZED<br>STRENGTH          | TOTAL<br>PHDS |              |
| MILITARY  | 36                              | 1             | 28           |
| CIVILIAN  | 1243                            | 83            | 768          |
| TOTAL     | 1279                            | 84            | 796          |

| ACRES | SPACE AND PROPERTY               |         |         | COST (MILLION \$) |        |                 |
|-------|----------------------------------|---------|---------|-------------------|--------|-----------------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB     | ADMIN   | OTHER             | TOTAL  | REAL PROP EQUIP |
| 11000 | 1175.000                         | 262.000 | 408.000 | 1845.000          | 32.000 | 75.000          |

...MISSION

PLAN & CONDUCT RESEARCH, EXPLORATORY & ADVANCED DEVELOPMENT FOR ASSIGNED MATERIEL. EXECUTE MATERIEL DEV PROGRAMS NOT SELECTED FOR PROJ MGMT. PROVIDE SCIENTIFIC & ENGR SPT TO OTHER DARCOM OR DOD ELEMENTS WITH PROJ/SYS MGMT RESPONSIBILITY. DESIGN, DEV & FABRICATE PROTOTYPE MSL SYS COMPONENTS

...CURRENT IMPORTANT PROGRAMS

LASER TECHNOLOGY AND APPLICATIONS

TERMINAL HOMING

FREE FLIGHT ROCKET SYSTEMS

TACTICAL SOFTWARE

SIMULATION RESEARCH

...FUNCTIONS/EQUIPMENT/CAPABILITIES

OPERATE ARMY INERTIAL GUID MGMT & TECH CTR & ARMY RKT PROP TECH & MGMT CTR. PROVIDE SIMULATION SPT BY USE OF ADV SIMULATION FAC FOR EXPLORATORY, ADV & ENGR DEV PROGS. SERVE AS DARCOM LEAD LAB FOR GLC/TERM HOMING & HI ENERGY LASER TECHNOLOGY. AIRBORNE SENSOR MEASUREMENT PLATFORM, ADAPTIVE CORRELATION EVALUATOR, HEAT TREATING FAC, PROTOTYPE FABRICATION FAC, INTERACTIVE COMPUTER SYS ANALYZER, FLUIDIC DESIGN FAC, ADVANCED SIM FAC WITH CENTRAL CMPUTR COMPLEX & 3 SIMULATORS (INFRARED SYS, ELECTRO-OPTICAL SYS, RADIO FREQ SYS), GAS DYNAMIC LASER FAC, LASER RADAR FAC, SIGNATURE EVALUATION ENVIRONMT CHAMBER, FAILURE ANALYSIS FAC, STATIC TEST FAC, FLIGHT & TRACK TEST FAC, ELECTROMAGNETIC EFFECTS TEST FAC, HI ENERGY LASER LAB FAC, FEBETRON 705 FLASH X-RAY SYS, UNITRON VACUUM HOT STAGE METALLOGRAPH, ADVANCED RADAR DEV FAC.

INSTALLATION: MOBILITY EQUIPMENT R&D COMMAND

FT. BELVOIR VA

CDR COL B.C. HUGHES

TECH DIR MR TERENCE G. KIRKLAND

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 51.995           | 50.189              |
| TOTAL PROCUREMENT     | 30.337           | 26.091              |
| TOTAL OEM             | 13.171           | 14.890              |
| TOTAL OTHER           | 1.958            | 1.500               |
| TOTAL ANNUAL LAB      | 47.461           | 92.670              |
| <br>TOTAL INHOUSE     | 38.310           | 39.871              |
| TOTAL INHOUSE RDT&E   | 22.273           | 22.738              |
| ANNUAL OPERATING COST | 9.374            | 9.843               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 68                     | 2             | 34            | 34           |
| CIVILIAN  | 1207                   | 21            | 429           | 778          |
| TOTAL     | 1275                   | 23            | 463           | 812          |

| ACRES | SPACE AND PROPERTY |         |         | COST (MILLION \$) |           |        |
|-------|--------------------|---------|---------|-------------------|-----------|--------|
|       | LAB                | ADMIN   | OTHER   | TOTAL             | REAL PROP | EQUIP  |
| 1064  | 693.649            | 115.530 | 194.279 | 1003.458          | 49.542    | 30.000 |

...MISSION

BASIC AND APPLIED RSCH DESIGN DEV PRODUCT AND PRODUCTION ENGRG STBZN AND DESIGN TESTING AND TEST EVAL ON ASSIGNED ITEMS OF EQUIP. OVERALL SUPERVISION OF USA FUELS AND LUBS LAB. ENGRG AND PROC SPT OF TOPO EQUIP. QUANTITY FIRST TIME BUYS OF ASSIGNED ITEMS. ASSIGNED SPT TO PROJECT/COMMODITY MGR

...CURRENT IMPORTANT PROGRAMS

CCOUNTERMINES

ELECTRICAL POWER GENERATION + DISTRIBUTION

CONSTRUCTION EQUIPMENT

CAMOUFLAGE

FUELS + LUBRICATION MATERIALS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

ACCOMPLISH A THEORETICAL EXPERIMENTAL PROGRAM OF RSCH DEVELOPMENT AS ASSIGNED TO IDENTIFY, DESIGN DEVELOP EFFECTIVE EQUIPMENT/TECHNIQUES FOR ASSIGNED MISSION ITEMS. ITEMS INCLUDE: MINE NEUTRALIZATION, DETECTION EQUIP, EXPLOSIVES DETECTION TECHNIQUES, LONG RANGE SURFACE MINEFIELD DETECTION, FUELS, LUBRICANTS, SANITARY SCIENCES EQUIP, ELECTRICAL, ENVIRONMENTAL EQUIP, COUNT-R SURV. ILLUMINATE TOPO EQUIP, MARINE, BRIDGE EQUIP, CONSTRUCTION, MECHANICAL, CCE EQUIP, INTRUSION DETECTION EQUIP, CONTROLLED ENVIRONMENTAL STORAGE, SHIPPING SYSTEM. FACILITIES INCLUDE: RADIO FREQ ANECHOIC CHAMBER, DATA COLLECTION VAN, RAIL HUMP TEST FACILITY, COMBUSTION LAB, FUELS HANDLING, SURVEILLANCE FAC, BRIDGE TEST FAC, BATTERY TEST FAC, CLIMATIC TEST FAC, TROPIC TEST FAC, HUMAN FACTORS LAB, COMPUTER AID DESIGN, ENGR FAC, PICTORIAL SPT, INSTR FAC, PEL ANALYSIS LAB.

## INSTALLATION: MOBILITY SYSTEMS LABORATORY

WARREN MICHIGAN

CDR MG O.C. DECKER JR

CH SCI DR E PETRICK

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 26.870           | 36.276              |
| TOTAL PROCUREMENT     | 13.400           | 31.500              |
| TOTAL OEM             | 8.564            | 10.189              |
| TOTAL OTHER           | 0.547            | 0.245               |
| TOTAL ANNUAL LAB      | 49.381           | 73.210              |
| TOTAL INHOUSE         | 22.288           | 26.805              |
| TOTAL INHOUSE RDT&E   | 10.742           | 15.566              |
| ANNUAL OPERATING COST | 0.954            | 0.989               |

## PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 37                     | 1             | 14            | 23           |
| CIVILIAN  | 838                    | 10            | 276           | 562          |
| TOTAL     | 875                    | 11            | 290           | 585          |

| ACRES | SPACE AND PROPERTY               |         |       | COST (MILLION \$) |         |           |       |
|-------|----------------------------------|---------|-------|-------------------|---------|-----------|-------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB     | ADMIN | OTHER             | TOTAL   | REAL PROP | EQUIP |
| 43    | 458.568                          | 126.433 |       | 62.644            | 647.645 | 20.970    | 7.500 |

## ...MISSION

RESPONSIBLE FOR RESEARCH, CONCEPT, DESIGN, DEVELOPMENT, FABRICATION, PRODUCIBILITY ENGINEERING PLANNING, SUPPORT TO PRODUCTION, FOR PRESENT AND FUTURE VEHICLES SYSTEMS AND SUB-SYSTEMS OF TANK AUTOMOTIVE MATERIAL AND ITS FUTURE SCIENCES

## ...CURRENT IMPORTANT PROGRAMS

SIMPLIFIED TEST FOPT FOR INTERNAL COMBUSTION ENGINE POWERED MATERIAL SURVIVABILITY (HSTV-L)

H1 MAG A

L-163-S STRATIFIED CHARGE ENGINE

M-113 MODERNIZATION

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

VEHICLE BRAKE DYNAMOMETER

VEHICLE SUBSYSTEM INTEGRATION

ANALYTICAL PREDICTION OF MILITARY VEHICLE PERFORMANCE

VEHICLE MOTION SIMULATOR

RIVER SIMULATOR FACILITY AND LAND LOCOMOTION SOIL RING

MINE PROTECTION

VEHICLE SIGNATURE PROGRAM

VALIDATION OF THE ARMY MOBILITY MODEL

SIX DEGREE OF FREEDOM SIMULATOR

METAL ANAL WITH MICROPROBE ELECTRON MICROSCOPE ANALYSER AND TECHNIQUES

DEVELOPMENT OF IMPROVED ARMOR WELDING AND FABRICATION

LOW TEMPERATURE, SHOCK AND VIBRATION TEST FACILITIES

INSTALLATION: NATICK R&D COMMAND

NATICK MASSACHUSETTS

CDR COL RUFUS E. LESTER

TECH. DIR. DR. DALE H. SIELING

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 25.252           | 25.518              |
| TOTAL PROCUREMENT     | 2.981            | 1.286               |
| TOTAL OEM             | 13.826           | 13.785              |
| TOTAL OTHER           | 1.447            | 1.494               |
| TOTAL ANNUAL LAB      | 43.506           | 42.083              |
| <br>TOTAL INHOUSE     | 30.434           | 31.514              |
| TOTAL INHOUSE RDT&E   | 15.837           | 17.682              |
| ANNUAL OPERATING COST | 6.264            | 6.404               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 104                    | 5             | 22            | 82           |
| CIVILIAN  | 1152                   | 93            | 463           | 689          |
| TOTAL     | 1256                   | 98            | 485           | 771          |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |        |         | COST (MILLION \$) |           |        |
|-------|----------------------------------|--------|---------|-------------------|-----------|--------|
|       | LAB                              | ADMIN  | OTHER   | TOTAL             | REAL PROP | EQUIP  |
| 2994  | 550.562                          | 65.900 | 412.268 | 1028.730          | 25.878    | 15.856 |

...MISSION

ACCOM ASG R-D IN THE PHYS AND BIOL SCI AND ENG TO MEET MIL RQR IN THE  
COMMODITY AREAS OF TEX CLO BODY ARMOR ORG MATLS INSECT AND FUNG SUBS  
CNTS FOOD SVC EQUIP FLD SPT EQUIP TENT AND EQUIP AND AIR DEL EQUIP IN  
DESIG CMDTY AREAS, PROV TECH AND ENG SPT IN CONNEC W/ACCOM OF AE AND STD

...CURRENT IMPORTANT PROGRAMS

SUBSISTENCE TECHNOLOGY

RADIATION PRESERVATION OF FOOD

AIRDROP TECHNOLOGY

ANALYSIS & DESIGN OF MILITARY FEEDING SYSTEMS

CLOTHING, EQUIPMENT & PACKAGING TECHNOLOGY

...FUNCTIONS/EQUIPMENT/CAPABILITIES

COBALT 60 IRRAD FACILITY DESIGNED FOR MAX FLEXIBILITY IN FOOD PROCESSING  
BACTERIOLOGY LAB EQUIP FOR INVESTIGATIONS OF PATHOGENIC MICROORGANISMS  
FLAME PROTECTION LAB AND FACILITY INCLUDING AN OUTDOOR FLAME PIT  
HIGH RESOLUTION MASS SPECTROMETER FOR ANALYSIS OF VOLATILE COMPOUNDS  
FOOD PROCESSING FAC FOR CONTROLLED PREPROCESSING AND PROC BY SEV TECHNI  
LAB SUBSONIC WIND TUNNEL CAPABLE OF VELOCITIES UP TO 110 FEET PER SEC  
HEAT TRANSFER LAB TO STUDY HEAT AND MASS TRANSPORT CHAR OF FABRICS  
ELECTRON LINEAR ACCELERATOR DESIGNED FOR HIGH POWER OUTPUT IN FOOD PROV  
DROP TEST FAC CAPS OF 40 TON CAPACITY TRACKED CRANE AND A 50 FT BOOM  
DYEING AND FINISHING LAB FOR CONDUCTING STUDIES FO TEXTILES  
FEBETRON MACHINE USED AS A RADIA SOURCE FOR PULSE RADICLYSIS STUDIES  
RAIN ROOM DESIGNED TO DUPLICATE RAINFALL CORRESPONDING TO NATURAL RAIN

INSTALLATION: NIGHT VISION LABORATORY

FT. BELVOIR, VA.

ACT. DIR. MR. EDWARD J. SHEEHAN      DEP. DIR. MR. JOHN JOHNSON

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 40.954           | 51.182              |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL OEM             | 0.000            | 0.000               |
| TOTAL OTHER           | 0.000            | 0.000               |
| TOTAL ANNUAL LAB      | 40.954           | 51.182              |
| <br>TOTAL INHOUSE     | 17.512           | 17.570              |
| TOTAL INHOUSE RDT&E   | 17.512           | 17.570              |
| ANNUAL OPERATING COST | 1.599            | 1.758               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 28                     | 0             | 7             | 21           |
| CIVILIAN  | 410                    | 31            | 207           | 203          |
| TOTAL     | 438                    | 31            | 214           | 224          |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |       |        | COST (MILLION \$) |           |        |
|-------|----------------------------------|-------|--------|-------------------|-----------|--------|
|       | LAB                              | ADMIN | OTHER  | TOTAL             | REAL PROP | EQUIP  |
| 21    | 73.261                           | 3.521 | 67.207 | 143.989           | 43.961    | 40.905 |

...MISSION

NVL IS RESPONSIBLE FOR PROVIDING A NIGHT VISION CAPABILITY TO ENABLE THE ARMY TO CARRY OUT OPERATIONS AT NIGHT WITH NEAR DAYLIGHT EFFICIENCY. THE SYSTEM DEVELOPMENT PROGRAM IS STRUCTURED AROUND A TECHNOLOGY BASE CONSISTING OF IMAGE INTENSIFICATION, FAR IR, RAD SOURCES AND VISIONICS.

...CURRENT IMPORTANT PROGRAMS

COMMON MODULE PROGRAM

GRAFENWOHR ELECTRO-OPTICAL SENSOR TRIALS

THIRD GENERATION IMAGE INTENSIFIER PROGRAM

SECOND GENERATION PRODUCTION PROGRAM

ADVANCED 2ND GENERATION FLIR DEVELOPMENT

...FUNCTIONS/EQUIPMENT/CAPABILITIES

NVL'S MOST SIGNIFICANT FACILITY CAPABILITIES - SEMICONDUCTOR MATERIALS RESEARCH, VISIONICS RESEARCH, DETECTOR FABRICATION, ELECTRONICS DESIGN, SEMICONDUCTOR LASER RESEARCH, COMMON MODULE, X-RAY ANALYSIS, SURFACE RESEARCH, DOPED SILICON CRYSTAL GROWTH, DETECTOR/FOCAL PLANE, INF TV CAMERA TUBE, INF OPTICAL TEST, TRANSMISSOMETER MEASUREMENT, TV EVALUATION, 3D MULTI-SPECTRAL SEARCH SIMULATOR.

INSTALLATION: PICATINNY ARSENAL LABORATORIES

DOVER, N.J.

CDR COL PETER KENYON

TECH DIR MR H.W. PAINTER

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | '77<br>EST) |
|-----------------------|------------------|-------------|
| TOTAL RDT&E           | 85.400           | 75.745      |
| TOTAL PROCUREMENT     | 30.964           | 27.745      |
| TOTAL OEM             | 16.847           | 16.050      |
| TOTAL OTHER           | 1.030            | 1.130       |
| TOTAL ANNUAL LAB      | 134.241          | 120.670     |
| TOTAL INHOUSE         | 86.194           | 76.747      |
| TOTAL INHOUSE RDT&E   | 43.400           | 36.667      |
| ANNUAL OPERATING COST | 26.400           | 30.375      |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 84                     | 0             | 16            | 68           |
| CIVILIAN  | 4174                   | 63            | 1603          | 2571         |
| TOTAL     | 4258                   | 63            | 1619          | 2639         |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |         |          | COST (MILLION \$) |           |        |
|-------|----------------------------------|---------|----------|-------------------|-----------|--------|
|       | LAB                              | ADMIN   | OTHER    | TOTAL             | REAL PROP | EQUIP  |
| 5852  | 619.590                          | 612.391 | 2643.053 | 3875.034          | 76.363    | 58.573 |

...MISSION

CEN FOR LIFE CYCLE FUNC FOR BASIC AND APPLIED RSCH THRU DEVMT AND ENGRG OF NUC AND CONVL MUNS SUCH AS MINES, GRENS, RKT AND MSL WHDS, PROJS, FUZES, ENERGETIC MATLS ENGRG SCIENCE, HAZARDOUS MUNS CTMS, TFCH OF MFG AND PROCS PROCS ALL NUC AND ASG CONVL MUNS, DOD PLASTEC CENTER.

...CURRENT IMPORTANT PROGRAMS

PERSHING II WARHEAD SECTION

ENERGETIC MATERIALS

PROJ 8 INCH XM753

PROJ 8 INCH HE XM650

GROUND VEHICLE DISP MINE SYSTEM

...FUNCTIONS/EQUIPMENT/CAPABILITIES

NUC WPNS, PROTOTYPE FAB AND ASSY, AND EXPLOS AND PROP PLT PLANTS PROV CCMPL INTRGED FAC FOR ASSY, INSP AND TEST OF AK AND CONVL MUNS AND COMPS AND THE MFG AND PROCING OF EXPLOS AND PROP COMP. THE EXPLOS, PYRO, PROP, MATLS AND QA LABS HAVE UNUSUAL EQUIP FOR RSCH, RELIABILITY AND QA SUCH AS BETATRON, HIGH SPEED PHOTO AND SHOCK LOAD FAC, HIGH ALT TEST CHAMBERS, ELECTROMAGNETIC RADIATION INSP ETC. THE DEVMT AND ENVIRONMENTAL TEST AND EVAL FAC HAVE MAJOR CPBLTY AS STATIC AND DYNAMIC TEST RGS, DROPP TOWERS, DUD RECOVERY AND DISASSEMBLY, RF VULNERABILITY, COMPL ENVIRONMENTAL SIM, TARGET EFFS ETC. OTHER EQUIP INCL VIBRATORS FOR LOADS TO 2000 LB, STATIC RKT TEST RG, 2540 TON HYDROSTATIC PRESS, CMPT TAPE CON MFG EQUIP, VARIETY OF FUZE EVAL EQUIP, CLOSED CIRCUIT TV, HIGH ACCEL SLED TRACK.

INSTALLATION: R&D TECHNICAL SUPPORT ACTIVITY

FT. MONMOUTH, N.J.

DIR MR RICHARD L. JOHNSON

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL R&D             | 10.120           | 12.694              |
| TOTAL PROCUREMENT     | 1.300            | 1.592               |
| TOTAL OEM             | 0.300            | 0.957               |
| TOTAL OTHER           | 0.180            | 0.364               |
| TOTAL ANNUAL LAB      | 11.900           | 15.607              |
| TOTAL INHOUSE         | 11.665           | 15.217              |
| TOTAL INHOUSE R&D     | 9.885            | 12.559              |
| ANNUAL OPERATING COST | 3.514            | 4.795               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 3                      | 0             | 0             | 3            |
| CIVILIAN  | 475                    | 1             | 88            | 387          |
| TOTAL     | 478                    | 1             | 88            | 390          |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |        |        | COST (MILLION \$) |           |       |
|-------|----------------------------------|--------|--------|-------------------|-----------|-------|
|       | LAB                              | ADMIN  | OTHER  | TOTAL             | REAL PROP | EQUIP |
| 136   | 17.826                           | 34.599 | 77.415 | 129.840           | 33.988    | 6.523 |

...MISSION

VULNERABILITY ANALYSIS

ANTENNA MASTS AND MECHANICAL STRUCTURES

VEHICULAR MARINE CRAFT AND SHELTER INSTALLATIONS

COMPUTER AIDED DESIGN TECHNIQUES

...CURRENT IMPORTANT PROGRAMS

MECHANICAL ENGINEERING - AIRBORNE AND GROUND EQUIPMENT

VULNERABILITY ANALYSIS

ENVIRONMENTAL CRITERIA AND TEST FACILITIES

VEHICULAR MARINE CRAFT AND SHELTER INSTALLATIONS

COMPUTER AIDED DESIGN ENGINEERING AND MANUFACTURING

...FUNCTIONS/EQUIPMENT/CAPABILITIES

ELECTROMAGNETIC COMPATABILITY FOR RFI

ENVIRONMENTAL CONTROL SYSTEMS

ENVIRONMENTAL TEST FACILITIES

MATHEMATICAL COMPUTATIONS AND STATISTICS

EQUIPMENT DESIGN AND DRAFTING

SPECIFICATION ENGINEERING

AIRCRAFT VIBRATION MEASUREMENTS

COMPUTER AIDED DESIGN

MODEL SHOP FABRICATION - ALL CRAFTS

METROLOGY

TEST MEASURING EQUIPMENT CALIBRATION AND REPAIRS

COMPUTER AIDED MANUFACTURING ENGINEERING

INSTALLATION: RESEARCH INST FOR BEHAVIORAL & SOCIAL SCI WASHINGTON, D.C.

CDR COL WILLIAM C. MAUS

TECH. DIR. DR. J.E. UHLANER

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 19.667           | 22.783              |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL C&M             | 0.000            | 0.000               |
| TOTAL OTHER           | 0.000            | 0.000               |
| TOTAL ANNUAL LAB      | 19.667           | 22.783              |
| <br>TOTAL INHOUSE     | 8.123            | 11.007              |
| TOTAL INHOUSE RDT&E   | 8.123            | 11.007              |
| ANNUAL OPERATING COST | 2.010            | 3.316               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 36                     | 1             | 40            | 4            |
| CIVILIAN  | 233                    | 123           | 183           | 50           |
| TOTAL     | 269                    | 124           | 223           | 54           |

| ACRES | SPACE AND PROPERTY               |       |       | COST (MILLION \$) |       |           |
|-------|----------------------------------|-------|-------|-------------------|-------|-----------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB   | ADMIN | OTHER             | TOTAL | REAL PROP |
| 0     | 42.000                           | 8.000 | 4.000 | 54.000            | 0.000 | 1.708     |

...MISSION

RSCH & DEV PRGMS IN BEH & SOC SCI FOR DEPT ARMY IN INDIV TNG & PERFOR & IN ORGS & SYSTS- INCL RSCH TO IMPR INDIV & UNIT TNG & EVAL, PERS ACCES & UTILIZA, ENHANCE CAREER DEV & SOLDIER PROG, ENH EFF OF GPS IN CMD-CNTRL & TAC OPS, IMPV HUM PERF THRU ED TECH, TNG SIMULA, & ORG EFF ANALYSIS

...CURRENT IMPORTANT PROGRAMS

MEAS OF ARMY ORG ENVIR DIFFS AND ARMY ORG EFFECTIVENESS  
MAP OF THE EARTH AND NIGHT FLIGHT TRAIN, FLT SIMULA - AVIATOR SELECTION AUTOMATION, SIMULA & EVAL IN SYST EMBEDDED TRNG- BATTLEFIELD INFO & MGT RSCH ON ACQ, RETEN, & ASSIGN. EFFIC OF MALE & FEMALE CFF & ENL PERSONNEL PERFORMANCE-BASED M:TH FCR IND & UNIT TNG, INCL TAC ENGAGEMENT SIMULA

...FUNCTIONS/EQUIPMENT/CAPABILITIES

EIGHT CCNUS FIELD UNITS & CNE EACH IN EUROPE & KOREA, LIAISON OFFICES AT TRADOC & IN LONDON SUPPORT IN-HSE RSCH PRGM MANAGED BY TWO LABORATORIES WITHIN WHICH ARE 7 TECH AREAS, 1 PERS ACCESSION & UTILIZA, 2 INDIV TNG & SKILL EVAL, 3 CAREER DEVEL & SOLDIER PRODUCTIVITY, 4 UNIT TNG & EVAL SYSTEMS, 5 BTLFLD INFO SYS, 6 EDUC TECHNCL & TNG SIMULA, 7 HUM FACTORS IN TAC OPS. IN-HSE EXPER FACILITIES INCL LABORATORY AREA. AN ARMY-OWNED IN-HSE COMPUTER PERMITS, WITHIN THE LABS, REAL-TIME EXPERIMENTATION. ADDITIONAL TERMINAL LINES TO EXTERNAL COMPUTERS INCR DATA STORAGE & PROV FLEXIBILITY. EXPER PROG PERMITS WIDE RANGE OF LAB OPS TO TEST HUMAN PERF HYPOTHESES UNDER SIMULATED TACTICAL CONDITIONS.

INSTALLATION: RESEARCH INSTITUTE OF ENVIRONMENTAL MEDICINE NATICK, MASS.

CDR COL HARRY G. DANGERFIELD

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 3.540                                    | 3.546               |
| TOTAL PROCUREMENT     | 0.000                                    | 0.000               |
| TOTAL C&M             | 0.000                                    | 0.000               |
| TOTAL OTHER           | 1.050                                    | 1.174               |
| TOTAL ANNUAL LAB      | 4.590                                    | 4.720               |
| TOTAL INHOUSE         | 4.590                                    | 4.720               |
| TOTAL INHOUSE RDT&E   | 3.540                                    | 3.546               |
| ANNUAL OPERATING COST | 1.052                                    | 0.767               |

| PERSONNEL | PERSONNEL DATA (END OF FY 1976) |               | TOTAL<br>PROF | NON-<br>PROF |
|-----------|---------------------------------|---------------|---------------|--------------|
|           | AUTHORIZED<br>STRENGTH          | TOTAL<br>PHDS |               |              |
| MILITARY  | 82                              | 16            | 57            | 25           |
| CIVILIAN  | 80                              | 20            | 37            | 43           |
| TOTAL     | 162                             | 36            | 94            | 68           |

| ACRES | SPACE AND PROPERTY               |        |        | COST (MILLION \$) |       |                 |
|-------|----------------------------------|--------|--------|-------------------|-------|-----------------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN  | OTHER             | TOTAL | REAL PROP EQUIP |
| 4     | 60.421                           | 16.563 | 28.647 | 107.631           | 3.663 | 2.645           |

...MISSION

TO CONDUCT RSCH ON INTERACTION OF CLOTHING AND EQUIP WITH WORK PHYSIOLOGY AND THE EFF OF EXTREME HEAT, COLD, AND HIGH TERRESTRIAL ALT ON PHYSIOLOGICAL AND FUNCTIONAL CAPACITY, AND METH FOR REDUCING THESE EFFECTS.

...CURRENT IMPORTANT PROGRAMS

PREVENTION AND TREATMENT OF DISABILITIES DUE TO MILITARY OPERATIONS IN THE EXTREME ENVIRONMENTS. PREDICTION OF LIMITS OF MILITARY PERFORMANCE AS A FUNCTION OF ENVIRONMENT, CLOTHING, AND EQUIPMENT. EVALUATION OF PHYSICAL FITNESS TRAINING PROGRAMS. BIOLOGICAL PROCESSES THAT LIMIT HEAVY PHYSICAL WORK. MEDICAL PROBLEMS IN MILITARY ARTIC OPERATIONS.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

CONDUCT RSCH AND PROVIDE GUIDANCE TO DESIGNERS, ENGINEERS, TACTICIANS, PLANNERS AND PHYSIANS ON MILITARY PERFORMANCE AND CASUALTY PREVENTION AND TREATMENT IN EXTREME CLIMATES AND ENGINEERED ENVIRONMENTS, ADVISE ON HEALTH AND SAFETY IN MANEVRS DURING HEAT, COLD, OR HYPOXIC STRESS. MAJOR EQUIPMENT INCLUDES ANIMAL CARE FACILITIES, ELECTRON MICROSCOPE, UNDERWATER RESEARCH POOL, COPPER MANIKINS, AND DIVERSE EQUIPMENT FOR BIOMEDICAL, BIOPHYSICAL, MEDICAL, PHYSIOLOGICAL, PHARMACOLOGICAL, AND PSYCHOLOGICAL MEASUREMENT. FIELD FACILITIES INCLUDE LABORATORIES AT PIKE'S PEAK, CO AND FORT WAINWRIGHT, AK.

INSTALLATION: TROPIC TEST CENTER

FT. CLAYTON, C.Z.

CDR COL WENDELL L. PRINCE

TECH DIR MR FRANK S. MENDEZ

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 2.296            | 2.305               |
| TOTAL PROCUREMENT     | 0.224            | 0.025               |
| TOTAL C&M             | 0.004            | 0.006               |
| TOTAL OTHER           | 2.367            | 2.485               |
| TOTAL ANNUAL LAB      | 4.891            | 4.821               |
| <br>TOTAL INHOUSE     | 4.683            | 4.659               |
| TOTAL INHOUSE RDT&E   | 2.151            | 2.143               |
| ANNUAL OPERATING COST | 0.564            | 0.591               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 77                     | 0             | 14            | 63           |
| CIVILIAN  | 62                     | 5             | 18            | 44           |
| TOTAL     | 139                    | 5             | 32            | 107          |

| ACRES | SPACE AND PROPERTY               |        |       | COST (MILLION \$) |         |           |       |
|-------|----------------------------------|--------|-------|-------------------|---------|-----------|-------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN | OTHER             | TOTAL   | REAL PROP | EQUIP |
| 18866 | 18.782                           | 30.000 |       | 87.310            | 136.092 | 1.033     | 1.699 |

...MISSION

PLAN, CONDUCT AND REPORT ON ENVIRONMENTAL PHASES OF DEVELOPMENT TEST 11, AND OTHER DEVELOPMENTAL TYPE TESTS. PROVIDE ADVICE AND GUIDANCE ON TESTS AND EVALUATION MATTERS TO MATERIAL DEVELOPERS, MATERIAL PRODUCERS, OTHER SERVICES, AND PRIVATE INDUSTRY.

...CURRENT IMPORTANT PROGRAMS

PERSONNEL ARMOR SYSTEM GROUND TROOP (PASGT)

81 MM HIGH EXPLOSIVE

POL TANKS (3000/10000/50000 GALLON) FABRIC TYPE

PSYCHO-PHYSICAL MEASUREMENT TECHNIQUES (ILIR)

TEST METHODOLOGY AND R AND D INSTRUMENTATION PROGRAMS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

TEST FACILITIES AND LABORATORIES WITH INSTRUMENTS AND EQUIPMENT FOR CONDUCTING TROPIC TESTS OF DOD MATERIEL IN THE NATURAL ENVIRONMENT INCLUDE. ENGINEERING, HUMAN FACTORS, CHEMICAL, MICROBIOLOGICAL, MATERIALS, SOILS, CALIBRATION, PHOTOGRAPHIC AND NIGHT VISION SENSOR / OPTICAL LABORATORIES. OTHER TEST RESOURCES CONSIST OF FIRING RANGES, NATURAL TERRAIN MOBILITY COURSES, AMMO TEST STORAGE AND FUNCTIONING AREAS, JUNGLE, GRASS AND COASTAL MATERIEL EXPOSURE SITES, JUNGLE RADAR RANGING SITES, POL TANK FARM, MAN-PACK PORTABILITY COURSE, CALIBRATED SEISMIC DETECTION AND CHEMICAL TEST GRIDS AND 18,000 ACRES OF BROADLEAF EVERGREEN TREES, SEMIDECIDUOUS TREES, MARSHLAND, GRASSLAND, CORAL REEFS, FLAT AND HILLY TERRAIN AND ALL TYPES OF TROPIC VEGETATION.

INSTALLATION: WALTER REED ARMY INSTITUTE OF RESEARCH

WASHINGTON, D.C.

CDR COL GARRISON RAPMUND

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 15.146           | 15.240              |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL OEM             | 2.318            | 1.846               |
| TOTAL OTHER           | 6.104            | 6.423               |
| TOTAL ANNUAL LAB      | 23.568           | 23.509              |
| TOTAL INHOUSE         | 23.568           | 23.509              |
| TOTAL INHOUSE RDT&E   | 15.146           | 15.240              |
| ANNUAL OPERATING COST | 4.073            | 4.973               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 456                    | 131           | 430           | 26           |
| CIVILIAN  | 500                    | 63            | 511           | 11           |
| TOTAL     | 956                    | 194           | 941           | 37           |

| ACRES | SPACE AND PROPERTY               |        |       | COST (MILLION \$) |       |           |
|-------|----------------------------------|--------|-------|-------------------|-------|-----------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN | OTHER             | TOTAL | REAL PROP |
| 206   | 382.494                          | 58.360 | 0.000 | 440.854           | 9.165 | 15.224    |

...MISSION

TO PERFORM GEN MIL MED RSCH CAPABILITY, AND RSCH IN AREAS OF COMBAT SURG, COMBAT PSYCH, GASTRO-INTESTINAL DIS, RENAL DIS, HEMATOLCGY, AND BIOLOGICAL EFF OF MICROWAVE IRRADIATION.

TED PERS.

...CURRENT IMPORTANT PROGRAMS

TO DISCOVER EFF PREVENTIVE AND TREATMENT AGENTS FOR CONTROL OF DRUG RE-FRACTORY MALARIA. DEFINE EPIDEMIOLOGY OF PSYCHIATRIC-BEHAVIORAL DISORDERS IN SOLDIERS. MOLECULAR PHARMACOLOGY STUDY OF CHEMOTHERAPEUTIC DRUGS TO DEV MODES FOR CONTROL OF ADENOVIRUSES AND RESPIRATORY DISEASES. DEV IMPROVED SURG MANAGEMENT OF SEVERELY INJURED COMBAT CASUALTIES.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

RSCH, TEACHING AND REFERENCE LABORATORY SERVICES SUMMARIZE MAJOR FUNCTIONS IN THE AREAS OF PREVENTIVE MEDICINE, INFECTIOUS DISEASES, SURGERY, NEUROPSYCHIATRY RELATED DISEASES, INTERNAL MEDICINE, MEDICAL CHEMISTRY, AND BASIC MEDICAL SCIENCES. MAJOR EQUIPMENT INCLUDES ELECTRON MICROSCOPES, AUTOMATED CHEMICAL ANALYSIS SYSTEMS, CHEMICAL TYPWRITERS, BEHAVIORAL RSCH INSTRUMENTATION. WRAIR MAINTAINS LABORATORY AND RSCH FACILITIES AT FT MEADE, MD, SEATO HQ, BANGKOK, THAILAND, BRAZIL, SOUTH AMERICA AND KENYA. WRAIR IS CAPABLE OF CONDUCTING RSCH IN A VAST NUMBER OF AREAS.

INSTALLATION: WHITE SANDS MISSLE RANGE

WHITE SANDS MR, N.M.

CDR MG ORVILLE L. TOBIASON

TECH. DIR. DR. RICHARD H. DUNCAN

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 103.815          | 126.265             |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL O&M             | 0.653            | 0.647               |
| TOTAL OTHER           | 15.179           | 11.051              |
| TOTAL ANNUAL LAB      | 119.647          | 137.963             |
| <br>TOTAL INHOUSE     | 90.577           | 102.522             |
| TOTAL INHOUSE RDT&E   | 80.936           | 91.268              |
| ANNUAL OPERATING COST | 78.645           | 99.556              |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 931                    | 0             | 382           | 549          |
| CIVILIAN  | 3857                   | 47            | 1006          | 2651         |
| TOTAL     | 4788                   | 47            | 1388          | 3400         |

SPACE AND PROPERTY

| ACRES   | SPACE (THOUSANDS OF SQUARE FEET) |         |          | COST (MILLION \$) |           |         |
|---------|----------------------------------|---------|----------|-------------------|-----------|---------|
|         | LAB                              | ADMIN   | OTHER    | TOTAL             | REAL PROP | EQUIP   |
| 4214377 | 1430.159                         | 436.106 | 2848.369 | 4714.634          | 176.983   | 168.046 |

...MISSION

OPERATE A NATIONAL MISSILE RANGE FOR SUPPORT OF ALL APPROVED MISSILE AND RELATED TEST PROGRAMS. INDEPENDENTLY TEST AND EVALUATE ARMY MISSILE AND ROCKET SYSTEMS. ENGINEER AND DEVELOP RANGE INSTRUMENTATION SYSTEMS FOR GATHERING TEST DATA.

...CURRENT IMPORTANT PROGRAMS

PULSE-DOPPLER RADAR APPLICATIONS. USE OF GEOS C SATELLITE TO CALIBRATE RADARS. LASER RANGING AND TRACKING SYSTEM. TESTING OF DRONE FORMATION CONTROL SYSTEM FOR MULTIPLE ENGAGEMENT AIR DEFENSE. LASER TEST FACILITY INSTRUMENTATION.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

GROUND AND FLIGHT SAFETY. OBTAINING FLIGHT TRAJECTORY AND EVENT DATA. RECOVERING MISSILES OR PORTIONS THEREOF. REDUCING AND PUTTING INTO READABLE FORMS DATA COLLECTED BY RANGE INSTRUMENTS. ENGINEERING AND DEVELOPMENT OF RANGE INSTRUMENTATION. INDEPENDENTLY TEST AND EVALUATE ARMY WEAPONS SYSTEMS. EVALUATE GUIDANCE AND CONTROL SYSTEMS, STRUCTURAL INTEGRITY, PROPULSION SYSTEMS, ELECTROMAGNETIC RADIATION EFFECTS. ANALYSIS OF CHEMICAL AND METALLOGRAPHIC EFFECTS, MICROBIOLOGICAL EFFECTS, CLIMATIC ENVIRONMENTAL EFFECTS. TEST AND EVALUATE WARHEADS AND SPECIAL WEAPONS. WEAPONS SIMULATION. NUCLEAR EFFECTS TESTING. SOLAR FURNACE. COUNTER-COUNTER MEASURES TESTING. ELECTRONIC AND OPTICAL TRACKING SENSORS AND DATA TRANSMISSION REQUIRED TO PROVIDE TEST DATA ON MISSILES AND RELATED PROGRAMS.

INSTALLATION: YUMA PROVING GROUND

YUMA, ARIZONA

CDR JERRY M. BUNYARD

TECH. DIR. RICHARD H. MILLER

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 19.126                                   | 15.086              |
| TOTAL PROCUREMENT     | 3.566                                    | 2.126               |
| TOTAL O&M             | 0.844                                    | 0.564               |
| TOTAL OTHER           | 9.928                                    | 11.911              |
| TOTAL ANNUAL LAB      | 33.464                                   | 29.687              |
| TOTAL INHOUSE         | 31.167                                   | 22.709              |
| TOTAL INHOUSE RDT&E   | 19.126                                   | 15.086              |
| ANNUAL OPERATING COST | 7.963                                    | 10.192              |

| PERSONNEL | AUTHORIZED<br>STRENGTH | PERSONNEL DATA (END OF FY 1976) |               | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------------------------|---------------|---------------|---------------|--------------|
|           |                        | TOTAL                           | TOTAL<br>PROF |               |               |              |
| MILITARY  | 383                    | 0                               | 65            | 318           |               |              |
| CIVILIAN  | 875                    | 0                               | 102           | 773           |               |              |
| TOTAL     | 1258                   | 0                               | 167           | 1091          |               |              |

| ACRES  | SPACE AND PROPERTY               |        |          | COST (MILLION \$) |        |                 |
|--------|----------------------------------|--------|----------|-------------------|--------|-----------------|
|        | SPACE (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN    | OTHER             | TOTAL  | REAL PROP EQUIP |
| 870365 | 92.868                           | 98.254 | 1210.338 | 1401.460          | 44.136 | 73.881          |

...MISSION

PLAN, CONDUCT, SPT ET AIR DEL EQUIP, L-RNGE TUBE ARTY, ACRFT WPNS SYS, MOB EQUIP PLAN, CONDUCT, RPT DESERT ENV TEST SPT ARCTIC ENV TESTS PROVIDE TEST, EVAL ADVICE, GUIDANCE TO PROSPECTIVE FACILITY USERS DEVEL, MAINT MASTER PLAN FOR INST, FACIL, METHOD, TECH TEST EXPERTISE

...CURRENT IMPORTANT PROGRAMS

MECHANIZED INFANTRY COMBAT VEHICLE MICV XM723  
AN/TPQ-36 HOSTILE WEAPON LOCATION SYSTEM  
PROJECTILE 9 INCH M422  
HOWITZER 155MM XM198  
HELICOPTER AH1Q TOW COBRA

...FUNCTIONS/EQUIPMENT/CAPABILITIES

INSTRUMENTED ARTILLERY RANGE  
VEHICLE MOBILITY TEST RANGES AND FACILITY  
INSTRUMENTED AIRCRAFT ARMAMENT RANGE  
REAL TIME CINETHEDOLITE SYSTEM  
LASER RANGE TRACKER  
POSITION LOCATING DATA COMMUNICATION SYSTEM  
INSTRUMENTED DROP ZONES  
ENGINEERING TEST FACILITY  
INSTRUMENTATION CALIBRATION FACILITY  
SCIENTIFIC COMPUTER CENTER  
ENVIRONMENTAL TEST FACILITIES  
WEAPONS EVALUATION FACILITY

DEPARTMENT OF THE NAVY

INSTALLATION: AEROSPACE MEDICAL RESEARCH LABORATORY PENSACOLA FL

C.O. CAPT R.E. MITCHELL

TECH. ADV. DR. A. GARYBIEL

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 5.399            | 4.976               |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL O&M             | 0.000            | 0.000               |
| TOTAL OTHER           | 0.773            | 0.800               |
| TOTAL ANNUAL LAB      | 6.172            | 5.776               |
| <br>TOTAL INHOUSE     | <br>6.172        | <br>5.776           |
| TOTAL INHOUSE RDT&E   | 5.399            | 4.976               |
| ANNUAL OPERATING COST | 0.964            | 0.964               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 58                     | 18            | 26            | 32           |
| CIVILIAN  | 119                    | 18            | 44            | 75           |
| TOTAL     | 177                    | 36            | 70            | 107          |

| ACRES | SPACE AND PROPERTY               |        |        | COST (MILLION \$) |       |           |
|-------|----------------------------------|--------|--------|-------------------|-------|-----------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN  | OTHER             | TOTAL | REAL PROP |
| 1     | 212.000                          | 46.500 | 12.000 | 270.500           | 3.130 | 3.162     |

...MISSION

CONDUCT RESEARCH DEVELOPMENT TEST AND EVALUATION IN AEROSPACE MEDICINE  
AND RELATED SCIENTIFIC AREAS APPLICABLE TO AEROSPACE SYSTEMS

...CURRENT IMPORTANT PROGRAMS

PHYSIOLOGICAL EFFECTS OF NONIONIZING RADIATION  
HUMAN DYNAMIC RESPONSE TO IMPACT ACCELERATION AND VIBRATION  
PREVENTION OF DISORIENTATION AND VESTIBULAR DISTURBANCES IN FLIGHT  
AVIATION PERSONNEL PROCUREMENT SELECTION AND RETENTION  
VISUAL TARGET ACQUISITION

...FUNCTIONS/EQUIPMENT/CAPABILITIES

NONIONIZING RADIATION FACILITY WITH MICROWAVE AND EXTREMELY LOW FREQUENCY- IMPACT ACCELERATION FACILITY WITH 225000 LB THRUST HORIZONTAL ACCELERATOR AND 2 SLEDS MAX 200G AND 35G.40000 LB THRUST VERTICAL ACCELERATOR WITH 300 FPS X-RAY CINEMATOGRAPHY DEVICE. VIBRATION SHAKER 28000 LB THRUST, EQUIPED FOR HUMAN AND ANIMAL EXPERIMENTS IN UNUSUAL FORCE ACOUSTICAL, ELECTROMAGNETIC AND ATMOSPHERIC ENVIRONMENTS, VIVARIUM WITH OPERATING SUITE. DEVELOP TESTS FOR PSYCHOLOGICAL APTITUDES AND TOLERANCE TO STRESS, SLOW ROTATION ROOM; CORIOLIS ACCELERATION PLATFORM. HUMAN DISORIENTATION DEVICE; STILLE-WERNER CHAIR; OFF VERTICAL ROTATING CHAIR ANAEROBIC AND REVERBERANT CHAMBERS, PERIODIC ANGULAR ROTATOR ELECTRIC POSTURE TABLE, ECG CARDIOBALLISTIC AND VECTOR CARDIOGRAPHS. VISUAL DETECTION FACILITY PROGRAMMABLE HEADS-UP-DISPLAY, EYETRACKER, ELECTRON MICROSCOPE.

INSTALLATION: AIR DEVELOPMENT CENTER

JOHNSVILLE PA

C.O. CAPT C. RIGSBEE

TECH. DIR. DR. R.K. LCBB

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 123.360                                  | 129.687             |
| TOTAL PROCUREMENT     | 48.226                                   | 61.798              |
| TOTAL OEM             | 19.004                                   | 20.953              |
| TOTAL OTHER           | 3.009                                    | 2.562               |
| TOTAL ANNUAL LAB      | 193.599                                  | 215.000             |
| <br>TOTAL INHOUSE     | 76.132                                   | 78.452              |
| TOTAL INHOUSE RDT&E   | 53.159                                   | 52.402              |
| ANNUAL OPERATING COST | 23.026                                   | 22.779              |

| PERSONNEL | AUTHORIZED<br>STRENGTH | PERSONNEL DATA (END OF FY 1976) |               | NON-<br>PROF |
|-----------|------------------------|---------------------------------|---------------|--------------|
|           |                        | TOTAL<br>PHDS                   | TOTAL<br>PRCF |              |
| MILITARY  | 291                    | 3                               | 66            | 225          |
| CIVILIAN  | 2349                   | 35                              | 1160          | 1189         |
| TOTAL     | 2640                   | 38                              | 1226          | 1414         |

| ACRES | SPACE AND PROPERTY               |        |         | COST (MILLION \$) |        |                 |
|-------|----------------------------------|--------|---------|-------------------|--------|-----------------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN   | OTHER             | TOTAL  | REAL PROP EQUIP |
| 750   | 833.000                          | 43.000 | 451.000 | 1327.000          | 25.585 | 32.043          |

...MISSION

TO BE THE PRINCIPAL NAVY RDT&E CENTER FOR NAVAL AIRCRAFT SYSTEMS  
LESS AIRCRAFT LAUNCHED WEAPON SYSTEMS

...CURRENT IMPORTANT PROGRAMS

TACTICAL SUPPORT CENTER  
P-3C, S-3A, F-14 & NACF, WEAPON SYSTEMS  
LIGHT AIRBORNE MULTI-PURPOSE SYSTEMS  
ADVANCED SIGNAL PROCESSOR  
MYSTIC LINK

...FUNCTIONS/EQUIPMENT/CAPABILITIES

AIRCRAFT SYSTEMS SIMULATION, AIRBORNE SEARCH & RESCUE, INERTIAL  
NAVIGATION TECHNOLOGY, AIR VEHICLE TECHNOLOGY (STRUCTURES, MATERIALS,  
FLIGHT DYNAMICS, PERFORMANCE, FLIGHT CONTROL) AIRBORNE ASW SYSTEMS,  
DEVELOP & INTEGRATION OF AIRBORNE SYSTEMS INCLUDING ELECTRONIC  
SURVEILLANCE AND COUNTER MEASURES, COMMUNICATIONS, NAVIGATION INFORMATION  
PROCESSING & DISPLAY, ENVIRONMENTAL SENSING (ELECTROMAGNETIC/MAGNETIC,  
ACOUSTIC, ELECTRO-OPTIC, AND PHOTOGRAPHIC), A/C SUPPORT SYSTEMS, A/C COST  
METHODOLOGY AND LOGISTICS, AEROSPACE MEDICINE AND AVIATION PHYSIOLOGY  
AND SUPPORT TO OTHER ACTIVITIES AS DIRECTED

INSTALLATION: AIR ENGINEERING CENTER

LAKEHURST NJ

C.C. CAPT. R. R. GRAYSON

TECH. DIR. MP. W.J. COX

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 20.880           | 18.114              |
| TOTAL PROCUREMENT     | 35.806           | 37.614              |
| TOTAL OEM             | 22.247           | 20.093              |
| TOTAL OTHER           | 5.974            | 5.822               |
| TOTAL ANNUAL LAB      | 84.907           | 81.643              |
| TOTAL INHOUSE         | 41.382           | 37.895              |
| TOTAL INHOUSE RDT&E   | 18.768           | 15.270              |
| ANNUAL OPERATING COST | 9.509            | 10.280              |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 230                    | 1             | 37            | 193          |
| CIVILIAN  | 1667                   | 2             | 359           | 1308         |
| TOTAL     | 1897                   | 3             | 396           | 1501         |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |         |          | COST (MILLION \$) |           |        |
|-------|----------------------------------|---------|----------|-------------------|-----------|--------|
|       | LAB                              | ADMIN   | OTHER    | TOTAL             | REAL PROP | EQUIP  |
| 7416  | 257.984                          | 130.677 | 2278.739 | 2667.400          | 82.981    | 15.800 |

...MISSION

CONDCT PRGMS OF RSRCH, ENGR, DEV, DEV TEST, SYS INTGRTN, LTD PROD, PROC & FLEET ENGR SUPRT IN; A/C LAUNCH, RCVRY, & LNDG AID SYS, & GRD SUPRT EQUIP FOR A/C & ARBRN WPN SYS. SUPRT DOD STU & SPEC PRGMS. PRVD AVIATN & OTHER FACLTIS IN SUPRT OF ASSGND PRGMS & FOR OTHR ACTVS AS DSGND BY APPRO AUTH.

...CURRENT IMPORTANT PROGRAMS

STORED ENERGY, ROTARY DRIVE, AIRCRAFT LAUNCHING SYSTEMS

RECOVERY SYSTEM FOR HELICOPTERS ABOARD SHIP (RAST)

TRIBOLOGY (STUDY OF WEAR) TECHNOLOGY BASE PROGRAM

AUTOMATIC TEST EQUIPMENT FOR AVIONICS SUPPORT AND AVIONICS READINESS

VERTICAL, SHORT, TAKE OFF AND LANDING (VISTOL) OPTICAL LANDING SYSTEM

...FUNCTIONS/EQUIPMENT/CAPABILITIES

TEST FACILITIES FOR EVALUATION OF 1 TO 1 1/2 INCH DIAMETER WIRE ROPE AND ATTACHMENTS, DEVELOPMENT AND SERVICE LIFE SIMULATION OF HYDRAULIC, PNEUMATIC AND ELECTRICAL COMPONENTS/SUB-SYSTEMS. MOCK-UP OF AIR LAUNCHED WEAPONS HANDLING AND STORAGE FACILITIES ON AIRCRAFT CARRIERS, AIRCRAFT CARRIER OPERATIONAL ANALYSIS ROOM FOR STUDYING SPOTTING AND SERVICING CAPABILITIES ON FLIGHT AND HANGAR DECKS, MACHINE SHOP WITH CONVENTIONAL AND AUTOMATED MACHINE TOOLS CAPABLE OF PROTOTYPE AND LIMITED PRODUCTION. VACUUM FURNACE FOR HEAT TREATING. ELECTRON BEAM WELDER. CRYOGENICS FACILITY. RAPID LOAD TEST MACHINE. TRIBOLOGY (STUD OF WEAR) LABORATORY. NOISE MEASUREMENT LAB. ULTRASONIC CLEANING LAB. AVIONICS SUPPORT FAC. ELECTRIC POWER & ELECTRONIC SUPPORT FAC. NON DESTRUCTIVE EVAL. LAB. COMPUTER TELEPROCESSING FAC. USING TIME-SHARING CENTERS FOR ENGR. ANALYSIS.

INSTALLATION: AIR PROPULSION TEST CENTER

TRENTON, NJ

C.C. CAPT W.C. BENTLEY

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 16.998           | 19.565              |
| TOTAL PROCUREMENT     | 3.403            | 3.284               |
| TOTAL O&M             | 0.293            | 0.500               |
| TOTAL OTHER           | 0.616            | 0.441               |
| TOTAL ANNUAL LAB      | 21.310           | 23.790              |
| <br>TOTAL INHOUSE     | 14.302           | 16.460              |
| TOTAL INHOUSE RDT&E   | 11.204           | 13.332              |
| ANNUAL OPERATING COST | 3.947            | 4.384               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 8                      | 0             | 8             | 0            |
| CIVILIAN  | 619                    | 2             | 159           | 460          |
| TOTAL     | 627                    | 2             | 167           | 460          |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |        |         | COST (MILLION \$) |           |        |
|-------|----------------------------------|--------|---------|-------------------|-----------|--------|
|       | LAB                              | ADMIN  | OTHER   | TOTAL             | REAL PROP | EQUIP  |
| 68    | 391.044                          | 37.520 | 190.173 | 618.737           | 50.497    | 11.173 |

...MISSION

TEST AND EVALUATE AIR BREATHING GAS TURBINE PROPULSION SYSTEMS, THEIR COMPONENTS, ACCESSORIES, FUEL AND LUBRICANTS, AND PERFORM APPLIED RESEARCH AND DEVELOPMENT LEADING TO NEW PROPULSION SYSTEMS & CORRECTION OF DESIGN DEFICIENCIES AND SERVICE PROBLEMS.

...CURRENT IMPORTANT PROGRAMS

F404-GE-400 EXPLORATORY AND DEVELOPMENT TEST SUPPORT  
TF41-A-2 ENGINE COMBUSTOR AND SIMULATED FLIGHT ENDURANCE TESTS  
TF34-GE-2/400 ENGINE MISSION ENDURANCE/ALTITUDE STARTING AND PERF TESTS  
TF30-P-412 ENGINE-750- HOUR MISSION ENDURANCE TEST  
SEA LAUNCHED CRUISE MISSILE (SLCM) ENGINE DEVELOPMENT FLIGHT RATING TEST

...FUNCTIONS/EQUIPMENT/CAPABILITIES

TEST CELLS FOR SIMULATING ALTITUDE & ENVIRONMENTAL CONDITIONS OF FLIGHT. SIMULATION CAPABILITY, SEA LEVEL TO 100000 FEET; MINUS 65 DEGREES F TO PLUS 650 DEGREES F; FLIGHT TO MACH 3. THREE LARGE ALTITUDE CELLS, FOUR SMALL ALTITUDE CELLS USED TO TEST ANY ENGINE IN NAVY INVENTORY OR PLANNED. IN ADDITION TO TURBOJET/FAN TURBOSHAFT/PROP ENGINES, NAPTC TESTS AND EVALUATES PROPELLERS, HELICOPTER TRANSMISSIONS, STARTERS, AUXILIARY POWER UNITS, ROTORS FOR LCF AND CONTAINMENT, AIRCRAFT AND ENGINE FUEL SYSTEM COMPONENTS, AND OTHER ASSOCIATED HARDWARE. PERFORMS RESEARCH AND DEVELOPMENT RELATED TO ADVANCED LUBRICATING OILS, ENGINE OIL-WETTED COMPONENTS, ADVANCED & SYNTHETIC A/C FUELS & ENGINE AIR POLLUTION, NAPTC QUAL ALL A/C ENGINE OILS, MANAGES NAVY EXPL AND ADVANCED DEVEL PRGMS, PROVIDES ADMN AND TECH DIR TO SELECTED CONTRACTS FOR NAVAIR.

INSTALLATION: AIR TEST CENTER

PATUXENT RIVER MD

C.O. RADM J.H. FOXGROVER

TECH. DIR. MR. JOHN B. PARADIS

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL ROT&E           | 56.656                                   | 62.662              |
| TOTAL PROCUREMENT     | 16.232                                   | 16.113              |
| TOTAL OEM             | 8.709                                    | 10.907              |
| TOTAL OTHER           | 18.479                                   | 21.096              |
| TOTAL ANNUAL LAB      | 100.076                                  | 110.778             |
| TOTAL INHOUSE         | 83.953                                   | 87.255              |
| TOTAL INHOUSE ROT&E   | 47.582                                   | 49.886              |
| ANNUAL OPERATING COST | 40.477                                   | 45.025              |

| PERSONNEL | PERSONNEL DATA (END OF FY 1976) |          | TOTAL | TOTAL PROF | NON-PROF |
|-----------|---------------------------------|----------|-------|------------|----------|
|           | AUTHORIZED                      | STRENGTH |       |            |          |
| MILITARY  | 1520                            | 3        | 192   | 1328       |          |
| CIVILIAN  | 2262                            | 7        | 317   | 1945       |          |
| TOTAL     | 3782                            | 10       | 509   | 3273       |          |

| ACRES | SPACE AND PROPERTY               |         |          | COST (MILLION \$) |         |                 |
|-------|----------------------------------|---------|----------|-------------------|---------|-----------------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB     | ADMIN    | OTHER             | TOTAL   | REAL PROP EQUIP |
| 6638  | 15.125                           | 483.032 | 4419.105 | 4917.262          | 150.632 | 17.157          |

#### ...MISSION

EVAL & BIS TRIALS, TRAIN TEST PILOTS, TEST & EVALUATE TOTAL AIRCRAFT, THEIR MISSION SYSTEMS & ALL SUBSYSTEMS & COMPONENTS, RELATED SUPPORT SYSTEMS & ILS. PROVIDE TECHNICAL ADVICE & ASSISTANCE TO NASC & OTHERS, TO TRAIN TEST PILOTS & TO DEVELOP AIRCRAFT TESTING TECHNOLOGY.

#### ...CURRENT IMPORTANT PROGRAMS

TEST & EVALUATION OF ALL NEW AIRCRAFT & THEIR SYSTEMS F14, S3A, F18, E2C, P3C, A6, A7, AH1J, LAMPS, EP3E, AL/A7 TRAM, AV8A. ALSO GROUND SUPPORT EQUIPMENT A/C COMPUTERS & SOFTWARE, RELIABILITY & MAINTAINABILITY, HUMAN FACTORS, ELECTRONIC WARFARE CAPABILITIES, ELECTRONIC COMPATIBILITY, CARRIER SUITABILITY, ACLS, AIRCRAFT, CARRIER & AIRFIELD CERTIFICATIONS.

#### ...FUNCTIONS/EQUIPMENT/CAPABILITIES

LARGE RESTRICTED AIRSPAC, REAL TIME RANGE & AIRCRAFT TEST DATA PROCESSING, CATAPULT & ARRESTING GEARS, ACLS SITES, ELECTROMAGNETIC SHIELD HANGAR, GUN FIRING TUNNELS, ENVIRONMENTAL TESTING FACILITIES, ELECTRICAL POWER & CONTROL TESTING LABS, INSTRUMENTED SONOROUS RANGE, ASW TACTICAL SUPPORT CENTER, ASW SYSTEMS LABS, BIGMEDICAL & HUMAN FACTORS LABS, EXTENSIVE INSTRUMENTATION DESIGN & CONSTRUCTION FACILITIES, COMPUTER & SOFTWARE TEE LABS, WATER EDGE LOW ELECTROMAGNETIC NOISE TEST AREA, ELECTRO OPTICAL TARGETS & TEST RANGE, ENGINE TEST CELL & THRUST STAND, BROADBAND EW TEST RANGE, VSTOL TEST SITE, SURFACE EFFECT SHIP TEST FACILITY.

INSTALLATION: AIR TEST FACILITY (SHIP INSTALLATIONS) LAKEHURST NJ

C.O. CAPT F.W. HILL

TECH. COORD. MR. NICHOLAS IVANOVIC

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 2.568            | 5.392               |
| TOTAL PROCUREMENT     | 3.792            | 4.765               |
| TOTAL OEM             | 3.794            | 4.061               |
| TOTAL OTHER           | 1.281            | 1.060               |
| TOTAL ANNUAL LAB      | 11.435           | 15.278              |
| TOTAL INHOUSE         | 10.387           | 11.781              |
| TOTAL INHOUSE RDT&E   | 1.712            | 2.188               |
| ANNUAL OPERATING COST | 4.728            | 4.631               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 110                    | 0             | 13            | 97           |
| CIVILIAN  | 350                    | 1             | 74            | 276          |
| TOTAL     | 460                    | 1             | 87            | 373          |

| ACRES | SPACE AND PROPERTY |        |        | COST (MILLION \$) |           |       |
|-------|--------------------|--------|--------|-------------------|-----------|-------|
|       | LAB                | ADMIN  | OTHER  | TOTAL             | REAL PROP | EQUIP |
| 4000  | 67.612             | 15.113 | 99.056 | 181.781           | 37.694    | 6.818 |

...MISSION

TO CONDUCT TESTS AND EVAL OF LAUNCHING, RECOVERY, AND VISUAL LANDING AIDS SYSTEMS AND RELATED EQUIPMENT. PROVIDE TEST SITES, FACILITIES, AND SUPPORT SERVICES FOR DEV TESTS OF THESE EQUIPMENTS. CONDUCT R AND D OF EQUIPMENT AND INSTRUMENTATION USED IN TEST AND EVAL OF SAID EQUIPMENT.

...CURRENT IMPORTANT PROGRAMS

MK14 ROTARY ARRESTING GEAR DEV, TECH/EVAL AND OPE/VAL  
F-14 AIRCRAFT BARRICADE EVAL  
HIGH CYCLE TESTER DEV SUPPORT  
HELICOPTER HAULDOWN, SECURING AND TRAVERSING DEV AND EVAL  
STORED ENERGY ROTARY CATAPULT DEV SUPPORT

...FUNCTIONS/EQUIPMENT/CAPABILITIES

ACFT LAUNCHING FACILITIES INCLUDE TC13-0 AND TC13-1 SHIPBOARD CATAPULTS WITH MK7-0, MK4-0 AND PORTABLE JET-BLAST DEFLECTORS. ACFT RECJVVY FACILITIES INCLUDE MK14, MK7-3, MK7-1 SHIPBOARD AND E-2A AND BAK-12 SHORE-BASED ARRESTING GEAR AT RUNWAY TEST SITES. SIMILAR GEAR INCLUDING MK7-2 SHIPBOARD AND M-21 MAR CORPS FIELD GEAR ARE LOCATED AT 5 INDEPENDENT TRACK SITES FOR TESTING WITH DEADLOADS. TEST FACILITIES FOR HELICOPTER AND VSTOL LAUNCH AND RECEVY SUPPORT EQUIP INCLUDE A VISUAL LANDING AIDS LAB, ELEVATED FIXED PLATFORM, UNIVERSAL LIGHTING PAD AND MAR CORPS VSTOL FWD OPER BASE. THE TEST DATA ACQUISITION AND ANALYSIS SYSTEM CONSISTS OF 6 FIXED AND 5 MOBILE HIGH-SPEED DATA RECORDING SITES, PHOTO AND VIDEO INSTRUMENTATION, DIGITAL AND ANALOG COMPUTER FACILITIES. MACHINE SHOPS, ELECTRONICS REPAIR, AND HYDRAULIC TEST STAND FACILITIES PROVIDE SUPPORT

INSTALLATION: ARCTIC RESEARCH LABORATORY

BARROW AK

C.O. LTCDR R.H. SCHAUSS

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 6.756                                    | 6.763               |
| TOTAL PROCUREMENT     | 0.000                                    | 0.000               |
| TOTAL OEM             | 0.000                                    | 0.000               |
| TOTAL OTHER           | 1.588                                    | 1.351               |
| TOTAL ANNUAL LAB      | 8.344                                    | 8.114               |
| TOTAL INHOUSE         | 0.039                                    | 0.055               |
| TOTAL INHOUSE RDT&E   | 0.000                                    | 0.000               |
| ANNUAL OPERATING COST | 4.776                                    | 4.963               |

| PERSONNEL | AUTHORIZED<br>STRENGTH | PERSONNEL DATA (END OF FY 1976) |               | NON-<br>PROF |
|-----------|------------------------|---------------------------------|---------------|--------------|
|           |                        | TOTAL<br>PHDS                   | TOTAL<br>PROF |              |
| MILITARY  | 2                      | 0                               | 1             | 1            |
| CIVILIAN  | 0                      | 0                               | 0             | 0            |
| TOTAL     | 2                      | 0                               | 1             | 1            |

| ACRES | SPACE AND PROPERTY               |       |         | COST (MILLION \$) |        |                 |
|-------|----------------------------------|-------|---------|-------------------|--------|-----------------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB   | ADMIN   | OTHER             | TOTAL  | REAL PROP EQUIP |
| 4973  | 40.600                           | 5.800 | 209.400 | 256.000           | 30.587 | 19.413          |

...MISSION

SUPPORTS A COMPREHENSIVE BASIC RESEARCH PROGRAM IN THE PHYSICAL, BIOLOGICAL AND ENVIRONMENTAL SCIENCES RELATED TO THE ICE-COVERED ARCTIC OCEAN, ADJACENT SEAS AND COAST LINES. SUPPORT ENGINEERING DISCIPLINES WITH APPLICATIONS IN TUNDRA AND PERMAFROST AREAS.

...CURRENT IMPORTANT PROGRAMS

RESEARCH IN ARCTIC NAVIGATION AND ICE LANDING/TAKE-OFF TECHNIQUES.

RESEARCH ON AIR-SEA INTERFACE PROBLEMS.

PLAN AND PREPARE FOR THE NANSEN DRIFT PROJECT.

CONSTRUCT AN OCEANOGRAPHIC ATLAS OF THE BERING SEA.

RESEARCH ON THE VELOCITY, DENSITY, TURBULENCE BENEATH FLAT SEA ICE.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

PROVIDES FACILITIES MAINTENANCE, UTILITIES GENERATION, MOTOR VEHICLE OPERATION AND MAINT, FIRE PROTECTION, SECURITY, JANITORIAL SERVICES, COMMUNICATIONS, AIRPORT OPERATION, MEDICAL SUPPORT, FOOD SERVICE, LAUNDRY, RECREATION AND RESALE ACTIVITIES.

INSTALLATION: BIOMEDICAL RESEARCH LABORATORY

OAKLAND CA

C.O. CAPT J. F. PRIGNCW

TECH.DIR. DR N.A. VEDROS

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 2.188            | 2.035               |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL CGM             | 0.170            | 0.000               |
| TOTAL OTHER           | 0.604            | 0.524               |
| TOTAL ANNUAL LAB      | 2.962            | 2.559               |
| TOTAL INHOUSE         | 0.596            | 0.672               |
| TOTAL INHOUSE RDT&E   | 0.330            | 0.404               |
| ANNUAL OPERATING COST | 0.279            | 0.313               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 18                     | 5             | 8             | 10           |
| CIVILIAN  | 6                      | 1             | 1             | 5            |
| TOTAL     | 24                     | 6             | 9             | 15           |

| ACRES | SPACE AND PROPERTY               |       |        | COST (MILLION \$) |           |       |
|-------|----------------------------------|-------|--------|-------------------|-----------|-------|
|       | SPACE (THOUSANDS OF SQUARE FEET) |       |        | TOTAL             | REAL PROP | EQUIP |
|       | LAB                              | ADMIN | OTHER  |                   |           |       |
| 5     | 64.700                           | 8.731 | 45.373 | 118.804           | 0.100     | 3.000 |

...MISSION

CONDUCTS RESEARCH IN MICROBIOLOGY AIMED AT THE PREVENTION AND CONTROL OF DISEASES OF NAVAL PERSONNEL UNDER ISOBARIC, HYPERBARIC AND HYPOBARIC CONDITIONS AS WELL AS NORMAL AND UNUSUAL BREATHING MIXTURES. ALSO CONDUCTS RESEARCHS ON POLLUTION CONTROL AND ABATEMENT.

...CURRENT IMPORTANT PROGRAMS

WORK ON SURVIVAL OF ENTEROPATHOGENS IN SEA WATER  
DETERMINE DISEASES OF MARINE MAMMALS OF IMPORTANCE TO THE NAVY  
DEVELOP BIOMARKER ORGANISMS THAT CAN SERVE AS POLLUTION INDICATORS  
USE OF MICROORGANISMS FOR DEGRADATION OF POLLUTANTS IN SEAWATER  
STUDY OF SKIN TEST FOR MENINGITIS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

EQUIPMENT INCLUDES MINIATURE DEEP FREEZE AND MINIATURE FIELD INCUBATORS FOR VIRUS ISOLATION, ROTATING DRUM USED TO INVESTIGATE EFFECT OF LIGHT ON AEROSOLIZED MICROORGANISMS AND PHOTOQUANTICAL REACTIONS, A HYPERBARIC TEST FACILITY, MICROAEROFLOWCROMETER USED TO TRACK AEROSOL CLOUDS AND CLASS IV CONTAINMENT FACILITIES FOR HANDLING EXTREMELY PATHOGENIC VIRUSES AND BACTERIA. THE RESEARCH EQUIPMENT IS CONTINUOUSLY BEING MODIFIED AND EXPANDED IN ORDER TO MAINTAIN A LAB THAT IS RESPONSIVE TO THE TOTAL BIOLOGICAL NEEDS OF THE NAVY.

INSTALLATION: BLOOD RESEARCH LABORATORY

CHELSEA MS

C.O. CAPT CESARE R. VALERI

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 0.818            | 0.935               |
| TOTAL PROCUREMENT     | 0.816            | 0.000               |
| TOTAL OEM             | 0.000            | 0.000               |
| TOTAL OTHER           | 0.212            | 0.220               |
| TOTAL ANNUAL LAB      | 1.848            | 1.155               |
| TOTAL INHOUSE         | 1.848            | 1.155               |
| TOTAL INHOUSE RDT&E   | 0.818            | 0.935               |
| ANNUAL OPERATING COST | 0.200            | 0.200               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHOS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 17                     | 3             | 5             | 12           |
| CIVILIAN  | 12                     | 0             | 3             | 9            |
| TOTAL     | 29                     | 3             | 8             | 21           |

| ACRES | SPACE AND PROPERTY               |       |       | COST (MILLION \$) |       |           |
|-------|----------------------------------|-------|-------|-------------------|-------|-----------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB   | ADMIN | OTHER             | TOTAL | REAL PROP |
| 1     | 12.880                           | 2.760 | 8.560 | 24.200            | 0.500 | 0.715     |

...MISSION

CONDUCT RESEARCH AND DEVELOP METHODS FOR LONG-TERM PRESERVATION OF BLOOD AND BLOOD PRODUCTS AND EVALUATION OF USEFULNESS IN OPERATIONAL AREAS ON LAND, AT SEA AND IN HOSPITALS.

...CURRENT IMPORTANT PROGRAMS

WHITE CELL- AND PLATELET-POOR RED CELLS FOR THERAPEUTIC TRANSFUSION.  
EVALUATE METHODS FOR REJUVENATING UNDATED AND OUTDATED RED CELLS.  
EVALUATE METHODS FOR PRESERVING PLATELETS, WHITE CELLS, AND STEM CELLS.  
CLINICAL EVALUATION OF FROZEN RED CELLS AND PLATELETS  
EVALUATE NEW METHODS FOR COLLECTING WHITE CELLS, PLATELETS & STEM CELLS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

STORAGE CAPABILITY FOR 6500 UNITS OF FROZEN BLOOD.  
LIQUID AND FREEZE PRESERVATION EQUIPMENT FOR RED CELLS, WHITE CELLS,  
PLATELETS, PLASMA PROTEIN, AND STEM CELLS.  
EQUIPMENT TO BIOLOGICALLY EVALUATE THE VIABILITY AND FUNCTION OF RED  
CELLS.  
EQUIPMENT TO BIOLOGICALLY EVALUATE THE VIABILITY AND FUNCTION OF STEM  
CELLS AND WHITE CELLS.  
EQUIPMENT TO BIOLOGICALLY EVALUATE THE VIABILITY AND FUNCTION OF  
PLATELETS.

INSTALLATION: CIVIL ENGINEERING LABORATORY

PORT HUENEME CA

C.O. CAPT N.W. PETERSEN

TECH. DIR. MR WM F. BURKART

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT. + EST) |
|-----------------------|------------------|----------------------|
| TOTAL RDT&E           | 11.571           | 14.584               |
| TOTAL PROCUREMENT     | 0.886            | 0.740                |
| TOTAL OEM             | 1.181            | 1.289                |
| TOTAL OTHER           | 0.674            | 0.750                |
| TOTAL ANNUAL LAB      | 14.312           | 17.363               |
| <br>TOTAL INHOUSE     | 9.536            | 11.321               |
| TOTAL INHOUSE RDT&E   | 7.261            | 9.083                |
| ANNUAL OPERATING COST | 2.388            | 2.779                |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 15                     | 1             | 9             | 6            |
| CIVILIAN  | 300                    | 30            | 166           | 134          |
| TOTAL     | 315                    | 31            | 175           | 140          |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |        |        | COST (MILLION \$) |       |       |
|-------|----------------------------------|--------|--------|-------------------|-------|-------|
|       | LAB                              | ADMIN  | OTHER  | TOTAL             | REAL  | PRCP  |
| 22    | 120.352                          | 23.977 | 51.543 | 195.872           | 2.055 | 2.780 |

...MISSION

MISSION OF THE LABORATORY IS TO BE THE PRINCIPLE NAVY RDT&E CENTER FOR SHORE AND SEAFLOOR FACILITIES AND THE SUPPORT OF NAVY AND MARINE CORPS CONSTRUCTION FORCES

...CURRENT IMPORTANT PROGRAMS

NAVY SHORE FACILITIES SUPPORT  
NAVY OCEAN FACILITY ENGINEERING  
NAVY & MARINE CORPS ADVANCE MOBILITY PROGRAM  
ENERGY AND ENVIRONMENTAL PROTECTION TECHNOLOGY  
CONTAINER OFF LOADING TRANSFER SYSTEM

...FUNCTIONS/EQUIPMENT/CAPABILITIES

PRESSURE VESSEL FACILITY WITH 72 INCH 10 BY 10 FT DEEP PRESSURE VESSEL SUSTAINING PRESSURES UP TO 5500 PSI.DIVING LOCKER AND EQUIPMENT FOR 10 DIVERS.SEAFLOOR SOILS,MATERIALS,SOLID STATE METALURGICAL,PHOTOLELASTIC,SNOW AND ICE LABORATORIES,WARPING TUG, CORER FOR TAKING SAMPLE AT WATER DEPTHS TO 6000 FT., INSTRU TESTING EQUIPMENT FOR DEEP OCEAN INCLUDING A NAME SHEAR DEVICE CONE PENETOMETER.10 FT.CORER PLATE BEARING TEST DEVICE AND FOUNDATION MONITOR.PHOTOGRAPHIC FACILITY,ENVIRONMENTAL PROTECTION MONITORING CAPABILITY. CDC 8090 COMPUTER/TERMINAL WITH A HIGH SPEED READER AND LINE PRINTER, DIGITAL MAG TAPE T/O ANALOG TAPE.ADC AND DAC CONVERSION AND A PEN PLOTTER AND TIE WITH CDC-6600.

INSTALLATION: CLOTHING AND TEXTILE RESEARCH UNIT

NATICK MS

C.O. CDR R.A.J. RANIERI

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 0.691                                    | 0.695               |
| TOTAL PROCUREMENT     | 0.000                                    | 0.000               |
| TOTAL OEM             | 0.803                                    | 0.834               |
| TOTAL OTHER           | 0.024                                    | 0.254               |
| TOTAL ANNUAL LAB      | 1.518                                    | 1.783               |
| TOTAL INHOUSE         | 1.341                                    | 1.384               |
| TOTAL INHOUSE RDT&E   | 0.691                                    | 0.695               |
| ANNUAL OPERATING COST | 0.199                                    | 0.170               |

| PERSONNEL | PERSONNEL DATA (END OF FY 1976) |               | NON-<br>PROF |
|-----------|---------------------------------|---------------|--------------|
|           | AUTHORIZED<br>STRENGTH          | TOTAL<br>PHNS |              |
| MILITARY  | 1                               | 0             | 0            |
| CIVILIAN  | 60                              | 1             | 27           |
| TOTAL     | 61                              | 1             | 27           |

| ACRES | SPACE AND PROPERTY               |       |       | COST (MILLION \$) |           |       |
|-------|----------------------------------|-------|-------|-------------------|-----------|-------|
|       | SPACE (THOUSANDS OF SQUARE FEET) |       |       | TOTAL             | REAL PROP | EQUIP |
| LAB   | ADMIN                            | OTHER |       |                   |           |       |
| 2     | 10.000                           | 7.000 | 3.000 | 20.000            | 0.400     | 0.767 |

...MISSION

CONDUCT RESEARCH, DEVELOPMENT, TEST, AND EVALUATION AND GIVE ENGINEERING SUPPORT IN CLOTHING, TEXTILES, AND RELATED FIELDS ASSOCIATED WITH SERVICE CLOTHING AND ENVIRONMENTAL AND SPECIAL PROTECTIVE CLOTHING

...CURRENT IMPORTANT PROGRAMS

SHIPBOARD DAMAGE CONTROL CLOTHING  
LIFE SUPPORT SYSTEMS PROTECTIVE CLOTHING  
WET WEATHER CLOTHING  
SAFETY FOOTWEAR  
THERMAL TRANSMISSION APPARATUS DESIGN

...FUNCTIONS/EQUIPMENT/CAPABILITIES

MAJOR FUNCTIONS--

CONDUCT RDT&E IN TEXTILES MATERIALS, LEATHER, PLASTICS, AND RUBBER  
DEVELOP NAVY CLOTHING, ACCESSORIES, AND RELATED ITEMS  
CONDUCT STUDIES IN ENVIRONMENTAL SCIENCES AND LIFE SUPPORT SYSTEMS  
PREPARE SPECIFICATIONS FOR CLOTHING, TEXTILES, FOOTWEAR AND RELATED ITEMS  
COORDINATE STANDARDIZATION IN CLOTHING  
PROVIDE TECHNICAL SUPPORT TO ALL DOD AGENCIES IN NAVY CLOTHING AREAS  
MAJOR EQUIPMENT AND FACILITIES--  
TEXTILE LABORATORIES  
COLD TEST CHAMBERS  
HYDRO-ENVIRONMENT SIMULATOR  
HIGH INTENSITY THERMAL TEST UNIT

INSTALLATION: COASTAL SYSTEMS LABORATORY

PANAMA CITY FL

C.O. CAPT JAMES V. JOLLIFF

TECH. DIR. MR. GERALD G. GOULD

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 24.664           | 29.427              |
| TOTAL PROCUREMENT     | 0.981            | 0.172               |
| TOTAL D&M             | 3.754            | 3.492               |
| TOTAL OTHER           | 2.828            | 2.657               |
| TOTAL ANNUAL LAB      | 32.227           | 35.738              |
| <br>TOTAL INHOUSE     | 23.928           | 22.347              |
| TOTAL INHOUSE RDT&E   | 17.340           | 17.052              |
| ANNUAL OPERATING COST | 7.114            | 7.828               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 115                    | 1             | 13            | 102          |
| CIVILIAN  | 631                    | 23            | 286           | 345          |
| TOTAL     | 746                    | 24            | 299           | 447          |

| ACRES | SPACE AND PROPERTY               |        |         | COST (MILLION \$) |        |           |
|-------|----------------------------------|--------|---------|-------------------|--------|-----------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN   | OTHER             | TOTAL  | REAL PROP |
| 682   | 299.133                          | 35.198 | 307.423 | 641.754           | 29.871 | 13.214    |

...MISSION

TO BE THE PRINCIPAL NAVY ACTIVITY FOR CONDUCTING RDT&E IN SUPPORT OF NAVAL MISSIONS AND OPERATIONS THAT TAKE PLACE PRIMARILY IN THE COASTAL (CONTINENTAL SHELF) REGIONS.

...CURRENT IMPORTANT PROGRAMS

INTEGRATED SWIMMER DIVER SYSTEMS INCLUDING SALVAGE  
MINE COUNTERMEASURES  
ACOUSTIC WARFARE SYSTEMS  
COASTAL WARFARE OPERATIONS  
COASTAL TECHNOLOGY

...FUNCTIONS/EQUIPMENT/CAPABILITIES

OCEAN SIMULATION FAC. HYDROSPACE LAB. GAS ANALYSIS LAB. BIENGINEERING & PHYSIOLOGY LAB. WET SUBMERGIBLE VEHICLE FAC. RECOMPRESSION CHAMBERS. HYDRODYNAMIC PRESSURE SIMULATOR. SWIMMER/DIVER R&D FAC. MAGNETIC TARGET DETECTION & CLASSIFICATION RANGE. MAGNETIC LAB. TWO OFFSHORE PLATFORMS WITH LIVING QUARTERS FOR 30 & 4 PEOPLE. ELECTRONIC TRACKING RANGE. MODEL TOWING BASIN. ENVIRONMENTAL MONITORING FAC. CALIBRATION & STANDARDS FAC. BURROUGHS B-5500 DIGITAL COMPUTER. SYSTEMS DEVELOPMENT & TEST FACILITY. ACOUSTIC TEST POOL. PORTABLE TRACKING. OPTICAL POSITIONING SYSTEM. COUNTERMEASURES EVALUATOR. TRANSDUCER LAB & CALIBRATION FAC. LPH FREQUENCY HYDROPHONE CALIBRATION FAC. HELIPORT COMPLEX WITH 3 RH53D & 2 UH1E HELOS. INDUSTRIAL SHOPS. PIER SPACE & BOATS TO INCLUDE RESEARCH VESSEL, ATHENA. MSU/443, USS FIDELITY.

INSTALLATION: DENTAL RESEARCH INSTITUTE, NTC

GREAT LAKES IL

C.O. CAPT M.R. WIRTHLIN

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 0.540                                    | 0.644               |
| TOTAL PROCUREMENT     | 0.000                                    | 0.000               |
| TOTAL OEM             | 0.000                                    | 0.000               |
| TOTAL OTHER           | 0.435                                    | 0.412               |
| TOTAL ANNUAL LAB      | 0.975                                    | 1.056               |
| <br>TOTAL INHOUSE     | 0.975                                    | 1.056               |
| TOTAL INHOUSE RDT&E   | 0.540                                    | 0.644               |
| ANNUAL OPERATING COST | 0.260                                    | 0.235               |

| PERSONNEL | AUTHORIZED<br>STRENGTH | PERSONNEL DATA (END OF FY 1976) |      | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------------------------|------|---------------|--------------|
|           |                        | TOTAL                           | PHDS |               |              |
| MILITARY  | 25                     | 9                               | 11   | 14            |              |
| CIVILIAN  | 16                     | 3                               | 6    | 10            |              |
| TOTAL     | 41                     | 12                              | 17   | 24            |              |

| ACRES | SPACE AND PROPERTY               |        |       | COST (MILLION \$) |           |       |
|-------|----------------------------------|--------|-------|-------------------|-----------|-------|
|       | SPACE (THOUSANDS OF SQUARE FEET) |        |       | TOTAL             | REAL PROP | EQUIP |
| LAB   | ADMIN                            | OTHER  |       |                   |           |       |
| 0     | 11.780                           | 10.174 | 9.487 | 31.441            | 0.000     | 0.645 |

...MISSION

CONDUCT RESEARCH IN DENTAL PROBLEMS OF ORAL HEALTH IN NAVAL AND MARINE CORP PERSONNEL AND DELIVERY OF DENTAL CARE

...CURRENT IMPORTANT PROGRAMS

ORAL HEALTH OF NAVAL PERSONNEL

EVALUATION OF NAVY PLAQUE CONTROL PROGRAM

MICROORGANISMS IN INDUCED PERIODONTAL DISEASE

EVALUATION OF IMPLANT MATERIALS

WOUND HEALING OF SUPPORT TISSUES

...FUNCTIONS/EQUIPMENT/CAPABILITIES

ASSESS DENTAL HEALTH STATUS OF RECRUITS. IMPROVE DISEASE PREVENTION AND CARE PROCEDURES. INCREASE QUALITY AND QUANTITY OF DENTAL CARE\$.

AMINO ACID ANALYZER, ATOMIC ABSORPTION UNIT, FLUORIDE ELECTRODES.

SCINTILLATION COUNTER, 8K MEMORY COMPUTER, GAS CHROMATOGRAPH UNIT.

INSTALLATION: ELECTRONICS LABORATORY CENTER

SAN DIEGO CA

C.O. CAPT R.R. GAVAZZI

TECH. DIR. DR. C.E. BERGMAN

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 55.142           | 54.547              |
| TOTAL PROCUREMENT     | 4.498            | 6.712               |
| TOTAL D&M             | 13.434           | 12.418              |
| TOTAL OTHER           | 7.215            | 3.884               |
| TOTAL ANNUAL LAB      | 80.289           | 77.561              |
| <br>TOTAL INHOUSE     | 51.090           | 57.106              |
| TOTAL INHOUSE RDT&E   | 34.945           | 39.302              |
| ANNUAL OPERATING COST | 17.816           | 18.179              |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 84                     | 3             | 30            | 54           |
| CIVILIAN  | 1433                   | 85            | 805           | 628          |
| TOTAL     | 1517                   | 88            | 835           | 682          |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |         |        | COST (MILLION \$) |           |        |
|-------|----------------------------------|---------|--------|-------------------|-----------|--------|
|       | LAB                              | ADMIN   | OTHER  | TOTAL             | REAL PROP | EQUIP  |
| 1548  | 461.049                          | 122.732 | 85.324 | 669.105           | 16.224    | 55.131 |

...MISSION

MISSION AND FUNCTIONS ARE TO ESTABLISH AND MAINTAIN THE PRIMARY IN-HOUSE RDT&E CAPABILITY FOR NAVY AND MARINE CORPS ELECTRONIC SYSTEMS AND TECHNOLOGIES FOR COMMAND CONTROL AND COMMUNICATIONS, ELECTRONIC WARFARE, ELECTROMAGNETIC SURVEILLANCE, IDENTIFICATION, AND NAVIGATION.

...CURRENT IMPORTANT PROGRAMS

COMMAND CONTROL AND COMMUNICATIONS SYSTEMS ARCHITECTURE AND ENGINEERING  
SATELLITE COMMUNICATIONS AND DIGITAL INFORMATION EXCHANGE SYSTEMS  
COMMAND AND COMMUNICATION SYSTEMS FOR FBM AND ATTACK SUBMARINES  
APPLICATIONS OF MICROPROCESSORS AND MODULAR ELECTRONICS TO NAVY SYSTEMS  
OPERATIONAL APPLICATIONS OF OPTICS, ELECTRO-OPTICS AND FIBER OPTICS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

FACILITIES INCLUDE MICROELECTRONICS LAB, ELECTRO-OPTICS R&D LAB, HUMAN FACTORS LAB, MICROWAVE AND MILLIMETER WAVE RESEARCH FACILITY, ADVANCED COMPUTER SCIENCE CENTER, SHIP ANTENNA MODEL RANGE, ENVIRONMENTAL TEST FACILITY, MATERIALS SCIENCE LAB, SECURE SYSTEMS TEST FACILITY, ADVANCED SYSTEMS DEVELOPMENT AND EVALUATION FACILITIES, AND FLEET OPERATIONAL ACCURACY CHECK SITES

INSTALLATION: ENVIRONMENTAL PREDICTION RESEARCH FACILITY MONT RIV, CA.

C.O. CAPT PIERRE A. PETIT

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 2.302            | 2.250               |
| TOTAL PROCUREMENT     | 0.055            | 0.000               |
| TOTAL G&M             | 0.000            | 0.000               |
| TOTAL OTHER           | 0.263            | 0.246               |
| TOTAL ANNUAL LAB      | 2.620            | 2.496               |
| TOTAL INHOUSE         | 1.477            | 1.351               |
| TOTAL INHOUSE RDT&E   | 1.226            | 1.111               |
| ANNUAL OPERATING COST | 0.199            | 0.439               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHRS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 14                     | 1             | 4             | 10           |
| CIVILIAN  | 41                     | 1             | 21            | 20           |
| TOTAL     | 55                     | 2             | 25            | 30           |

| ACRS | SPACE AND PROPERTY |                |                | COST (MILLION \$) |           |       |
|------|--------------------|----------------|----------------|-------------------|-----------|-------|
|      | SPAC.<br>LAB       | SPAC.<br>ADMIN | SPAC.<br>OTHER | TOTAL             | REAL PROP | EQUIP |
| 0    | 1.808              | 5.012          | 10.490         | 17.310            | 0.000     | 0.974 |

...MISSION

CONDUCT RESEARCH AND DEVELOPMENT DIRECTED TOWARDS PROVIDING OBJECTIVE LOCAL, REGIONAL, AND GLOBAL ENVIRONMENTAL ANALYSIS AND PREDICTION TECHNIQUES; AND PROVIDE PLANNING, MODELING, AND EVALUATION SERVICES FOR DETERMINING THE EFFECT OF ENVIRONMENTAL ELEMENTS ON NAVAL WEAPON SYSTEMS

...CURRENT IMPORTANT PROGRAMS

LOCAL REGIONAL AND GLOBAL ENVIRONMENTAL ANALYSIS AND PREDICTION TECH. TECHNIQUES AND PROGRAMS FOR RECEIPT AND UTILIZATION OF SATELLITE DATA TECHNIQUES AND EQUIPMENT FOR INTERPRETATION AND DISPLAY OF ENVIRLN. DATA MODEL ENVIRONMENTAL EFFECTS ON NAVAL WEAPON SYSTEMS APPLICATION OF NEW ENVIRONMENTAL DEVELOPMENT, DISSEMINATE USER AIDS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

CDC 3100 COMPUTER AND PERIPHERAL EQUIPMENT  
 CDC 200 USER TERMINAL FOR ACCESS TO 7600 COMPUTER  
 5 INTERACTIVE TERMINAL FOR ACCESS TO CDC 6500 COMPUTERS  
 ACCESS TO CYBER 140/145 COMPUTER  
 SATELLITE DATA PROCESSING SYSTEM SOFTWARE DEVELOPMENT OFFICE (SSDC)  
 SEAIDS DISPLAY SYSTEM FOR ENVIRONMENTAL AND SATELLITE DATA  
 IN-HOUSE DOCUMENTATION FACILITIES (MTST, PLATE MAKER, OFF SET PRESS, ETC.)  
 PHOTOGRAPHIC LABORATORY  
 24000 VOLUME TECHNICAL LIBRARY OF ENVIRONMENTAL PUBLICATIONS  
 IN-HOUSE GRAPHIC ARTS AND DRAFTING FACILITIES  
 CALCIMP 265 PLOTTER  
 SATELLITE AND SYNTHETIC METEOROLOGICAL DATA LABORATORIES

INSTALLATION: EXPLOSIVE ORDNANCE DISPOSAL FACILITY INDIAN HEAD MD

C.O. CDR W.S. CAEOW

TECH. DIR. MR. LIONEL A. DICKENSON

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL ROT&E           | 3.540            | 4.645               |
| TOTAL PROCUREMENT     | 0.465            | 0.819               |
| TOTAL FGM             | 2.414            | 2.745               |
| TOTAL OTHER           | 2.348            | 0.098               |
| TOTAL ANNUAL LAB      | 8.767            | 8.307               |
| TOTAL INHOUSE         | 5.850            | 4.200               |
| TOTAL INHOUSE ROT&E   | 1.655            | 1.766               |
| ANNUAL OPERATING COST | 2.395            | 2.584               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PERF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 57                     | 0             | 36            | 21           |
| CIVILIAN  | 168                    | 3             | 41            | 127          |
| TOTAL     | 225                    | 3             | 77            | 148          |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |        |        | COST (MILLION \$) |           |       |
|-------|----------------------------------|--------|--------|-------------------|-----------|-------|
|       | LAB                              | ADMIN  | OTHER  | TOTAL             | REAL PROP | EQUIP |
| 1084  | 50.401                           | 23.397 | 26.416 | 100.213           | 3.780     | 2.307 |

...MISSION

CONDUCT RESEARCH, DEVELOPMENT, TEST AND EVALUATION CONCERNING BOTH THE DISPOSAL AND RENDERING-SAFE PROCEDURES FOR CONVENTIONAL AND SPECIAL WEAPONS, GUIDED MISSILES, UNDERWATER WEAPONS, EXPLOSIVES, BIO. AND CHEM MUNITIONS, BOTH U.S. AND FOREIGN PLUS THE REQUIRED TOOLS AND EQUIPMENT.

...CURRENT IMPORTANT PROGRAMS

RANGE CLEARANCE AND DISPOSAL TECHNIQUES

REMOTE CASE ENTRY SYSTEMS

IMPROVISED EXPLOSIVE DEVICE COUNTERMEASURES

EXPLOSIVE CONTAINMENT STUDY

DD DIVER BREATHING SYSTEM

...FUNCTIONS/EQUIPMENT/CAPABILITIES

DEVELOP EXPLOSIVE ORDNANCE DISPOSAL EOD PROCEDURE, PREPARE AND PUBLISH EOD PUBLICATIONS FOR JOINT-SERVICE USE. CONDUCT EXP. AND ADV. DEVELOPMENT LEADING TO SPECIALIZED TOOLS AND EQUIP. NEEDED TO LOCATE, IDENTIFY RECOVER, RENDER-SAFE AND DISPOSE OF ALL TYPES OF EXPLOSIVE ORDNANCE. PREPARE AND MAINTAIN DOCUMENTATION FOR EOD TOOLS AND EQUIP. CONDUCT FIRST ARTICLE INSPECTION ON EOD TOOLS BEING PROCURED FOR ALL SERVICES CONDUCT IN-SERVICE ENGINEERING FUNCTIONS FOR EOD AND SWIMMER WEAPONS SYSTEM TOOLS. CONDUCT INITIAL EVALUATION OF FOREIGN EXPLOSIVE ORDNANCE MAINTAIN, STOCK AND ISSUE EOD PUBLICATIONS FOR JOINT-SERVICE USE. CAPABILITY OF TESTING EOD TOOLS TO A DEPTH OF 400 FT IN A DIVING CHAMBER

INSTALLATION: HEALTH RESEARCH CENTER

SAN DIEGO CA

C.O. CAPT E.F. CCIL

SCI. DIR. DR. W. L. WILKINS

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 2.057            | 2.353               |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL C&M             | 0.000            | 0.000               |
| TOTAL OTHER           | 0.571            | 0.520               |
| TOTAL ANNUAL LAB      | 2.628            | 2.873               |
| <br>TOTAL INHOUSE     | 2.628            | 2.873               |
| TOTAL INHOUSE RDT&E   | 2.057            | 2.353               |
| ANNUAL OPERATING COST | 0.410            | 0.400               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 32                     | 10            | 13            | 19           |
| CIVILIAN  | 73                     | 11            | 28            | 45           |
| TOTAL     | 105                    | 21            | 41            | 64           |

| ACRES | SPACE AND PROPERTY               |       |       | COST (MILLION \$) |       |           |
|-------|----------------------------------|-------|-------|-------------------|-------|-----------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB   | ADMIN | OTHER             | TOTAL | REAL PROP |
| 1     | 11.177                           | 4.500 | 0.000 | 15.677            | 1.880 | 0.267     |

...MISSION

CONDUCT RSCH AND DEVELOPMENT ON MEDICAL AND PSYCHOLOGICAL ASPECTS OF  
HLTH AND PERFORMANCE OF NAVAL SERVICE PERSONNEL AND TO PERFORM SUCH  
OTHER FUNCTIONS OR TASKS AS MAY BE DIRECTED BY CHIEF BUMEC

...CURRENT IMPORTANT PROGRAMS

EFFECTS OF BIORHYTHMS ON HUMAN PERFORMANCE

PSYCHOBIOCHEMICAL ASSAYS STRESS TOLERANCE AMONG NAVAL SERVICE PERSONNEL

EFFECTS ORGANIZATIONAL STRESS HEALTH AND PERSONNEL EFFECTIVENESS

EFFECTS SHIPBOARD ENVIRONMENTAL DESIGN AND HABITABILITY DURING DEPLOY

FAMILY HEALTH DYNAMICS OF ADJUSTMENT TO SEPARATION

...FUNCTIONS/EQUIPMENT/CAPABILITIES

PSYCHOPHYSIO LAB INCLUDING STUDY LOSS OF SLEEP, ABNORMAL WORK-REST CYCL

BIOCHEMICAL CORRELATES OF STRESS IN HUMAN OPERATORS

ON-LINE ELECTROPHYSIOLOGICAL RECORDING

MONITOR AUTONOMIC, OTHER BIOFEEDBACK RESPONSES FOR CLINICAL/FIELD POPS

INSTALLATION: MEDICAL FIELD RESEARCH LABORATORY

CAMP LEJEUNE NC

C.O. CAPT EUGENE J. CLARK, JR.

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 0.800            | 0.000               |
| TOTAL PROCUREMENT     | 0.020            | 0.000               |
| TOTAL CGM             | 0.000            | 0.000               |
| TOTAL CTH-R           | 0.357            | 0.000               |
| TOTAL ANNUAL LAB      | 1.177            | 0.000               |
| TOTAL INHOUSE         | 1.147            | 0.000               |
| TOTAL INHOUSE RDT&E   | 0.785            | 0.000               |
| ANNUAL OPERATING COST | 0.280            | 0.000               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHLS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 20                     | 2             | 3             | 17           |
| CIVILIAN  | 30                     | 1             | 4             | 26           |
| TOTAL     | 50                     | 3             | 7             | 43           |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |       |        | COST (MILLION \$) |           |       |
|-------|----------------------------------|-------|--------|-------------------|-----------|-------|
|       | LAB                              | ADMIN | OTHER  | TOTAL             | REAL PROP | EQUIP |
| 0     | 29.816                           | 8.655 | 19.381 | 57.852            | 0.000     | 0.466 |

...MISSION

CONDUCT RESEARCH, DEVELOPMENT AND TESTING IN THE MEDICAL, DENTAL & ALLIED SCIENCES WITH PARTICULAR EMPHASIS IN PROBLEMS OF FIELD & AMPHIBIOUS MEDICINE

...CURRENT IMPORTANT PROGRAMS

TEST & EVAL HEAT ACCLIMATIZATION  
DIV-L & EVAL FIELD WATER PURIFICATION SYSTEMS  
VECTOR CONTROL METHODS, EQUIPMENT & SUPPLIES  
TEST & EVAL MED SUCTION PUMP & OXYGEN SYSTEMS  
DEV MARINE CORPS ENVIRONMENTALLY CONTROLLED MEDICAL SYSTEM (MCEMS)

...FUNCTIONS/EQUIPMENT/CAPABILITIES

CONDUCT RES IN PROBLEMS OF FLD & AMPHIB MED. DEV, TEST & EVAL MED EQUIP & SUPPLIES, & CLOTHING & EQUIPMENT FOR USMC PERSONNEL USE & PROTECTION; PRIMARY CAPABILITIES IN APPL RES, SPECIFICALLY IN AREAS OF EPIDEMIOL, PHYSIOL, STRESS PHYSIOL, ENTOML, ENVIRON RICL, FLD MED EQUIP, BIOCHEM, ANIMAL INVESTIGATION. MAJOR EQUIP - BALLISTIC RANGE, HIGH-SPEED BECKMAN CAMERA, MATERIALS LAMINATING PRESS & SEALERS, SEWING EQUIPMENT, 2-MAN RSP DISEASE ENVIRONMENTAL CHAMBER, OXYGEN ANALYZR, UNRESTRICTED PHOTO CAPABILITY, PHOTO MICROSCOPE, CRYOSTAT, GAS ANALYZER BLOOD, MICROSCOPE PHASESTAR, RADIO WITH RECHARGER.

INSTALLATION: MEDICAL RESEARCH INSTITUTE

BETHESDA MD

C.O. CAPT KENNETH W. SELL

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 10.035           | 11.678              |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL C&M             | 0.000            | 0.000               |
| TOTAL OTHER           | 3.686            | 2.720               |
| TOTAL ANNUAL LAB      | 12.721           | 14.398              |
| TOTAL INHOUSE         | 12.721           | 14.398              |
| TOTAL INHOUSE RDT&E   | 10.035           | 11.678              |
| ANNUAL OPERATING COST | 3.630            | 3.630               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 221                    | 62            | 221           | 0            |
| CIVILIAN  | 210                    | 45            | 92            | 118          |
| TOTAL     | 431                    | 107           | 313           | 118          |

| ACRES | SPACE AND PROPERTY               |        |        | COST (MILLION \$) |           |       |
|-------|----------------------------------|--------|--------|-------------------|-----------|-------|
|       | SPACE (THOUSANDS OF SQUARE FEET) |        |        | TOTAL             | REAL PROP | EQUIP |
| LAB   | ADMIN                            | OTHER  |        |                   |           |       |
| 4     | 133.495                          | 12.945 | 38.547 | 184.987           | 4.122     | 6.540 |

...MISSION

CONDUCT BASIC & APPLIED RESEARCH &  
DEVELOPMENT CONCERNED WITH THE HEALTH  
SAFETY & EFFICIENCY OF NAVAL  
PERSONNEL

...CURRENT IMPORTANT PROGRAMS

TISSUE TYPING, ORGAN TRANSPLANTS & IMMUNOSUPPRESSION IN RESTORATIVE SURG  
VACCINE D.V. FOR CONTROL OF MALARIA & SCHISTOSOMIASIS  
HEAT & COLD STRESS IN HYPERBARIC & HIGH HUMIDITY ENVIRONMENT  
PHYSIOLOGICAL CONDITIONS ASSOC WITH HYPERBARIC ENVIRONMENT  
MECHANISMS OF DENTAL PLAQUE DISEASE & TREATMENT OF DENTAL DISEASE & TRAUMA

...FUNCTIONS/EQUIPMENT/CAPABILITIES

BASIC & DEVELOPMENTAL RESEARCH IN THE BIOPHYSICAL AND BIOMEDICAL  
DISCIPLINES AFFECTING HUMAN HEALTH SAFETY & PERFORMANCE INCLUDING  
HUMAN ENVIRONMENTAL STRESS. FACILITIES INCLUDING  
ENVIRONMENTAL HEALTH EFFECTS LABORATORY,  
TRANSMISSION & SCANNING ELECTRON MICROSCOPE.  
TISSUE PRESERVATION & TRANSPLANTATION CAPABILITIES.  
RESEARCH BIOCHEMISTRY.  
EXPERIMENTAL ANIMAL FACILITIES & ANIMAL HOUSE.

INSTALLATION: MEDICAL RESEARCH UNIT NO. 2

TAIPEI TAIWAN

C.O. CAPT P.E.D. VANPEENEN

TECH DIR DR JOHN CROSS

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + FST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 1.892            | 1.874               |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL C&M             | 0.000            | 0.000               |
| TOTAL OTHER           | 0.659            | 0.700               |
| TOTAL ANNUAL LAB      | 2.551            | 2.574               |
| <br>TOTAL INHOUSE     | <br>2.551        | <br>2.574           |
| TOTAL INHOUSE RDT&E   | 1.892            | 1.874               |
| ANNUAL OPERATING COST | 0.505            | 0.612               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 32                     | 8             | 20            | 12           |
| CIVILIAN  | 4                      | 1             | 3             | 1            |
| TOTAL     | 36                     | 9             | 23            | 13           |

| ACRES | SPACE AND PROPERTY               |        |        | COST (MILLION \$) |       |           |
|-------|----------------------------------|--------|--------|-------------------|-------|-----------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN  | OTHER             | TOTAL | REAL PROP |
| 2     | 32.882                           | 16.075 | 48.364 | 97.321            | 0.101 | 0.681     |

...MISSION

CONDUCT RESEARCH AND DEVELOPMENT IN THE BIOMEDICAL SCIENCES, PROVIDE DATA ON DISEASES AND MEDICAL PROBLEMS OF MILITARY SIGNIFICANCE, RECOMMEND CONTROL MEASURES, AND PROVIDE TRAINING IN RESEARCH AND DEVELOPMENT TECHNIQUES

...CURRENT IMPORTANT PROGRAMS

CONDUCT RESEARCH AND STUDY OF PREVENTION OF SCRUB TYPHUS STUDIES OF FILARIASIS IN THE PHILIPPINES AND INDONESIA

SCHISTOSOMIASIS IN INDONESIA

ETIOLOGY OF FEBRILE ILLNESSES IN INDONESIA

...FUNCTIONS/EQUIPMENT/CAPABILITIES

CLINICAL STUDY OF DIAGNOSIS AND TREATMENT OF TROPICAL DISEASE AND EPIDEMIOLOGICAL STUDY OF INFECTIOUS DISEASES. COMPLETE RADIOSCOPE EQUIPMENT AND COMPUTER CAPABILITY IN CLINICAL INVESTIGATION, MICROBIOLOGY, MEDICAL PHYSICS, MEDICAL ECOLOGY, BIOCHEMISTRY, PATHOLOGY, ANIMAL FACILITY

INSTALLATION: MEDICAL RESEARCH UNIT NO. 3

CAIRO, EGYPT

C.O. CAPT W.F. MNER

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + FST) |
| TOTAL RDT&E           | 1.100                                    | 1.265               |
| TOTAL PROCUREMENT     | 0.000                                    | 0.000               |
| TOTAL OEM             | 0.000                                    | 0.000               |
| TOTAL OTHER           | 0.355                                    | 0.400               |
| TOTAL ANNUAL LAB      | 1.455                                    | 1.665               |
| TOTAL INHOUSE         | 1.455                                    | 1.665               |
| TOTAL INHOUSE RDT&E   | 1.100                                    | 1.265               |
| ANNUAL OPERATING COST | 0.000                                    | 0.000               |

| PERSONNEL | AUTHORIZED<br>STRENGTH | PERSONNEL DATA (END OF FY 1976) |               | NON-<br>PROF |
|-----------|------------------------|---------------------------------|---------------|--------------|
|           |                        | TOTAL<br>PHDS                   | TOTAL<br>PROF |              |
| MILITARY  | 25                     | 5                               | 9             | 16           |
| CIVILIAN  | 217                    | 3                               | 23            | 194          |
| TOTAL     | 242                    | 8                               | 32            | 210          |

| ACRES | SPACE AND PROPERTY               |       |        | COST (MILLION \$) |           |       |
|-------|----------------------------------|-------|--------|-------------------|-----------|-------|
|       | SPACE (THOUSANDS OF SQUARE FEET) |       |        | TOTAL             | REAL PROP | EQUIP |
| LAB   | ADMIN                            | OTHER |        |                   |           |       |
| 3     | 26.165                           | 8.288 | 34.747 | 69.200            | 1.075     | 0.776 |

...MISSION

TO CONDUCT RESEARCH AND DEVELOPMENT ON INFECTIOUS DISEASES OF MILITARY IMPORTANCE THAT ARE ENDEMIC OR EPIDEMIC IN ITS ASSIGNED GEOGRAPHICAL AREA; AND, TO PERFORM SUCH OTHER FUNCTIONS AS MAY BE DIRECTED BY THE CHIEF, BUREAU OF MEDICINE AND SURGERY.

...CURRENT IMPORTANT PROGRAMS

MENINGITIS STUDY

PATHOPHYSIOLOGY OF SCHISTOSOMIASIS

ARTHROPOD VIRUS ISOLATIONS IN TICKS, MOSQUITOES, SANDFLIES

SALMONELLA EPIDEMIOLOGY AND TREATMENT

IMMUNOLOGY OF HUMAN SCHISTOSOMIASIS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

TECHNICIAN TISSUE PROCESSOR, HEWLETT PACKARD MODEL 9100 CALCULATOR, PICKER NUCLEAR MAGNASCANNER, PERKIN-ELMER ATOMIC ABSORPTION SPECTROPHOTOMETER, PERKIN-ELMER GAS CHROMATOGRAPH, COULTER BLOOD CELL COUNTER, CARDIOPHOTOGRAPH, AO FLUORESCENT MICROSCOPE GUILFORD MODEL 240 SPECTROPHOTOMETER, AMSCO AUTOCLAVES, 1 L BLOOD GAS APPARATUS, ANALYTIC SCANNER AND INTEGRATOR, UNICOM UV SPECTROPHOTOMETER, REVCO FREEZERS, METTLER BALANCES, CLIMATIZER, INDUSTRIAL REFRIGERATORS, DUCON MICROSCOPE, COLORSCOPE, INCUBATOR CO<sub>2</sub>, EDGECAST HOOD, AUTOMATIC PIPETTER, MICROTOME, PATIENTS WARD TO HOSPITALIZE SICK EGYPTIANS, PUBLIC WORKS FACILITY, WORLD'S MOST COMPLETE TICK COLLECTION AND MODERN LABRATORY TO STUDY DISEASES IN EGYPT.

INSTALLATION: MEDICAL RESEARCH UNIT NO. 5 (ETHIOPIA)

APC NEW YORK

C.O. CAPT CRAIG K WALLACE

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1975     |             | 1977     |             |
|-----------------------|----------|-------------|----------|-------------|
|                       | (ACTUAL) | (ACT + EST) | (ACTUAL) | (ACT + EST) |
| TOTAL RDT&E           | 0.607    | 0.580       |          |             |
| TOTAL PROCUREMENT     | 0.000    | 0.000       |          |             |
| TOTAL C&M             | 0.000    | 0.000       |          |             |
| TOTAL OTHER           | 0.359    | 0.322       |          |             |
| TOTAL ANNUAL LAB      | 0.966    | 0.902       |          |             |
| TOTAL INHOUSE         | 0.966    | 0.899       |          |             |
| TOTAL INHOUSE RDT&E   | 0.607    | 0.577       |          |             |
| ANNUAL OPERATING COST | 0.100    | 0.133       |          |             |

## PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL |      | TOTAL |      | NON-<br>PROF |
|-----------|------------------------|-------|------|-------|------|--------------|
|           |                        | PHDS  | PROF | PHDS  | PROF |              |
| MILITARY  | 19                     | 3     | 4    |       |      | 15           |
| CIVILIAN  | 58                     | 3     | 6    |       |      | 52           |
| TOTAL     | 77                     | 6     | 10   |       |      | 67           |

| ACRES | SPACE AND PROPERTY               |       |       | COST (MILLION \$) |       |           |
|-------|----------------------------------|-------|-------|-------------------|-------|-----------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB   | ADMIN | OTHER             | TOTAL | REAL PROP |
| 0     | 5.096                            | 1.587 | 0.645 | 7.328             | 0.000 | 0.239     |

## ...MISSION

TO CONDUCT RESEARCH AND DEVELOPMENT ON INFECTIOUS DISEASES OF MILITARY IMPORTANCE THAT ARE ENDEMIC IN SUB-SAHARAN AFRICA. RESEARCH IS TO INCLUDE ECOLOGY, ETIOLOGY, EPIDEMIOLOGY AND IMMUNOLOGY OF THE INFECTIOUS DISEASES AND METHODS OF DIAG TREATMENT, PREVENTION & CONTROL

## ...CURRENT IMPORTANT PROGRAMS

TREATMENT OF RELAPSING FEVER, TYPHUS FEVER, DIARRHEAL AND VENER DISEASES  
 DRUG SUSCEPTIBILITY OF MALARIA PARASITES & NATURALLY ACQUIRED IMMUNITY  
 NATURAL INFECTION STUDY OF YELLOW FEVER & OTHER ARBOVIRAL DISEASES  
 MAPPING OF GEOGRAPHIC DISTRIBUTION OF HUMAN DISEASE & ARTHROPODE VECTORS  
 INSECT VECTORIAL CAPACITIES BY VIRUS ISOLATION AND TRANSMISSION STUDIES

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

BASIC AND EXPERIMENTAL RESEARCH FACILITIES IN THE BIOMEDICAL SCIENCES  
 EFFECTING HUMAN HEALTH INCLUDING VIROLOGICAL, BACTERIOLOGICAL PARASITOLOGICAL, ENTOMOLOGICAL DISCIPLINES  
 EXPERIMENTAL ANIMAL FACILITIES AND ANIMAL COLONY HOUSES  
 FIELD FACILITY IN SOUTHWESTERN ETHIOPIA  
 FLEET OF FOUR WHEEL DRIVE VEHICLES.  
 LIQUID NITROGEN MANUFACTURING PLANT.

INSTALLATION: NATIONAL PARACHUTE TEST RANGE

EL CENTRO CA

C.O. CAPT R.S. CHW, JR

T.C.H. DIR. DR. H.C. FISH

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 8.133            | 7.390               |
| TOTAL PROCUREMENT     | 0.706            | 0.380               |
| TOTAL C&M             | 0.942            | 1.025               |
| TOTAL OTHER           | 6.568            | 7.646               |
| TOTAL ANNUAL LAB      | 16.344           | 16.441              |
| TOTAL INHOUSE         | 13.584           | 12.164              |
| TOTAL INHOUSE RDT&E   | 7.433            | 6.470               |
| ANNUAL OPERATING COST | 6.427            | 6.446               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 262                    | 5             | 36            | 226          |
| CIVILIAN  | 290                    | 0             | 32            | 258          |
| TOTAL     | 552                    | 5             | 68            | 484          |

| ACRES  | SPACE (THOUSANDS OF SQUARE FEET) |        |          | COST (MILLION \$) |           |        |
|--------|----------------------------------|--------|----------|-------------------|-----------|--------|
|        | LAB                              | ADMIN  | OTHER    | TOTAL             | REAL PROP | EQUIP  |
| 484608 | 6.400                            | 56.670 | 1142.407 | 1205.477          | 33.061    | 15.534 |

...MISSION

CONDUCT RDT&E AND FOLLOW ON ENGINEERING OF AERODYNAMIC DECELERATORS, ASSOCIATED SYSTEMS, ASSEMBLIES AND EQUIPMENT; AND TO PROVIDE COMMON RANGE, TECHNICAL AND BASE SUPPORT FOR UNITS OF OPERATING FORCES OF THE NAVY AND OTHER DOD APPROVED USERS.

...CURRENT IMPORTANT PROGRAMS

PHYSIOLOGICAL RESEARCH

AIR CREW GLIDING ESCAPE SYSTEM

TATC ESCAPE SYSTEM SERVICE RELEASE TEST

SEU 3A TAV 8A ESCAPE SYSTEM

ADVANCED FIRE RESISTANT CANOPY

...FUNCTIONS/ EQUIPMENT/CAPABILITIES

DROP TEST RANGE LAND AND SALT WATER, SPACE POSITIONING PHOTO CCTV TELEMETRY INSTRUMENTATION, ADP FOR RANGE DATA, PARAMETERS SEA LEVEL TO 80KFT ENGINEERING SERVICES, EXPLORATORY DEVELOPMENT, ADVANCED AND BASIC DESIGN IN SERVICE ENGINEERING, MATERIALS TESTING LAB PHYSIOLOGICAL EVALUATION EQUIPMENT, PHOTO LAB, STILL AND MOTION, 16MM TO 70MM AND COLOR 5000 FPS AIRCRAFT, TRANSPORT DELIVERY LOW TO HIGH SPEED VEHICLE DELIVERY, AIR TO AIR PHOTO COVERAGE, EJECTION SEAT TEST BED, PERSONNEL DELIVERY INDUSTRIAL SHOPS, MACHINE SHOP, MODEL MAKING, VEHICLE AND PROTOTYPE PARACHUTE AND HARDWARE FABRICATION, CARPENTRY, WOODWORKING, PAINTING, METAL FABRICATION FOR WELD BEND HEAT TREAT AND MAGNAFLUX

INSTALLATION: ORDNANCE MISSILE TEST FACILITY

WHITE SANDS M.R., N.M

C.O. CDR M.A. PETERSON JR

CH. ENG. MR H.L. HENDON

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 3.508            | 3.021               |
| TOTAL PROCUREMENT     | 0.000            | 0.121               |
| TOTAL C&M             | 0.000            | 0.000               |
| TOTAL OTHER           | 1.400            | 1.749               |
| TOTAL ANNUAL LAB      | 4.908            | 4.891               |
| TOTAL INHOUSE         | 3.675            | 2.308               |
| TOTAL INHOUSE RDT&E   | 2.354            | 1.295               |
| ANNUAL OPERATING COST | 1.055            | 0.433               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 93                     | 0             | 33            | 60           |
| CIVILIAN  | 65                     | 0             | 2             | 63           |
| TOTAL     | 158                    | 0             | 35            | 123          |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |        |         | COST (MILLION \$) |       |       |
|-------|----------------------------------|--------|---------|-------------------|-------|-------|
|       | LAB                              | ADMIN  | OTHER   | TOTAL             | REAL  | PRCP  |
| 112   | 0.000                            | 90.540 | 316.047 | 406.587           | 0.886 | 4.488 |

...MISSION

SUPPORT THE NAVY GUIDED MISSILE AND RESEARCH ROCKET PROGRAMS INCLUDING GROUND AND FLIGHT TESTING, ASSIST JOINT SERVICE LASER GUIDED WEAPONS COUNTERMEASURE TEST PROGRAM, PARTICIPATE IN THE OPERATION OF THE DOD INTEGRATED MISSILE TEST AT WHITE SANDS.

...CURRENT IMPORTANT PROGRAMS

STANDARD MISSILE 1 AND 2-AEGIS FLIGHT TESTING  
ASMD MISSILE FLIGHT TESTING  
CRUISE MISSILE FLIGHT TESTING  
UPPER ATMOSPHERE RESEARCH ROCKET LAUNCHING  
STANDARD ARM MISSILE AIR-TO-GROUND FLIGHT TESTING

...FUNCTIONS/EQUIPMENT/CAPABILITIES

FLIGHT TEST TALOS, TERRIER, TARTAR, STANDARD, SAM GUIDED MISSILES  
FLIGHT TEST TALOS, STANDARD ANTI-RADIATION MISSILES  
LAUNCH AEROMIL 150, 170, 200, 350, ARIES, ASTROCREF F,D, BLACK IRON AND  
VARIOUS OTHER SOUNDING ROCKETS FOR UPPER ATMOSPHERIC STUDY  
CONDUCT NAVY AIR WEAPON TESTS  
LAUNCH VARIOUS ROCKETS IN SUPPORT OF NASA PROJECTS  
LAUNCH VARIOUS ROCKETS IN SUPPORT OF AIR FORCE PROJECTS  
CONDUCT VARIOUS DEVELOPMENT TESTS FOR SSM AND SAM PROJECTS  
PROVIDE DRONE SUPPORT  
ASSIST IN OPEVAL CRUISE MISSILE  
MAINTAIN TARGET TUM EQUIPMENT

INSTALLATION: PACIFIC MISSLE TEST CENTER

POINT MUGU CA

C.O. RADM D.M. ALTWEGG

TECH. DIR. MR T. PERRY

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 120.239          | 104.000             |
| TOTAL PROCUREMENT     | 29.518           | 29.256              |
| TOTAL OEM             | 19.593           | 8.393               |
| TOTAL OTHER           | 28.360           | 21.822              |
| TOTAL ANNUAL LAB      | 197.710          | 163.471             |
| TOTAL INHOUSE         | 138.408          | 117.745             |
| TOTAL INHOUSE RDT&E   | 92.864           | 80.080              |
| ANNUAL OPERATING COST | 53.800           | 18.975              |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHOS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 1004                   | 5             | 277           | 727          |
| CIVILIAN  | 4363                   | 15            | 1211          | 3152         |
| TOTAL     | 5367                   | 20            | 1488          | 3879         |

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |         |          | COST (MILLION \$) |           |         |
|-------|----------------------------------|---------|----------|-------------------|-----------|---------|
|       | LAB                              | ADMIN   | OTHER    | TOTAL             | REAL PROP | EQUIP   |
| 27090 | 290.921                          | 572.263 | 2462.024 | 3325.208          | 133.419   | 143.365 |

...MISSION

PERFORM DEVELOPMENT, TEST AND EVALUATION, DEVELOPMENT SUPPORT AND FOLLOW-ON ENGINEERING LOGISTIC AND TRAINING SUPPORT FOR NAVAL WEAPONS, WEAPONS-SYSTEMS AND RELATED DEVICES. PROVIDE MAJOR RANGE TECHNICAL AND BASE SUPPORT FOR FLEET USERS AND OTHER DEPARTMENT OF DEFENSE AND GOV AGENCIES

...CURRENT IMPORTANT PROGRAMS

AIR-LAUNCHED WEAPON PROGRAMS-SPARROW, SIDEWINDER, PHOENIX, TOMAHAWK

CONDOR-MALIBU, STANDARD ARM AND HARMON

SURFACE-LAUNCHED WEAPON PROGRAMS HARPOON, TOMAHAWK, AEGIS, SEASPARROW

STRATEGIC WEAPONS TESTS OF MM3, PGLAKIS, TRIDENT

FLEET AIR-AIR, AIR-SURFACE, SURFACE AND ANTISUBMARINE EXERCISES

...FUNCTIONS/EQUIPMENT/CAPABILITIES

UNDERWATER TRACKING RANGE 50 SQUARE MILE, 2-DIMENSIONAL 400-1000 FATHOMS  
AIR AND SURFACE TRACKING RANGE, 45000 SQUARE MILES. FPS-16, FPO-10, FPU-12,  
MPS-25 RADARS, THEDOLITES AND SINE-SEXTANTS. P, L, AND S BAND TELEMETRY,  
SYSTEMS. PROVIDE ENGINEERING MANAGEMENT AND SUPPORT FOR FW EQUIPMENT  
FACILITIES, VAST STATION, WEAPONS SIMULATION LAB, CLIMATIC CHAMBER, ANACHOIC  
CHAMBER, ECM LAB, MISSILE AND TARGET LAUNCH PLATFORMS AND FACILITIES,  
COMMAND, CONTROL, AND DESTRUCT FACILITIES. SHIP MOTION SIMULATOR, USNS  
WHEELING-TRACKING, TELEMETRY, COMMAND, CONTROL, AND DESTRUCT SHIP MICSIL,  
IMPACT LOCATION SYSTEMS

INSTALLATIONS: PERSONNEL RESEARCH & DEVELOPMENT CENTER SAN DIEGO, CA

C.O. CAPT J.J. CLARKIN

TECH. DIR. DR. J.J. REGAN

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 6.369                                    | 10.446              |
| TOTAL PROCUREMENT     | 0.436                                    | 0.350               |
| TOTAL G&M             | 1.579                                    | 1.655               |
| TOTAL OTHER           | 1.073                                    | 0.904               |
| TOTAL ANNUAL LAB      | 11.459                                   | 13.255              |
| TOTAL INHOUSE         | 7.515                                    | 9.021               |
| TOTAL INHOUSE RDT&E   | 5.232                                    | 6.737               |
| ANNUAL OPERATING COST | 1.804                                    | 1.900               |

| PERSONNEL | PERSONNEL DATA (END OF FY 1976) |               | NON-<br>PROF |
|-----------|---------------------------------|---------------|--------------|
|           | AUTHORIZED<br>STRENGTH          | TOTAL<br>PHDS |              |
| MILITARY  | 27                              | 1             | 21           |
| CIVILIAN  | 270                             | 67            | 196          |
| TOTAL     | 297                             | 68            | 217          |

| ACRES | SPACE AND PROPERTY               |       |       | COST (MILLION \$) |           |       |
|-------|----------------------------------|-------|-------|-------------------|-----------|-------|
|       | SPACE (THOUSANDS OF SQUARE FEET) |       |       | TOTAL             | REAL PROP | EQUIP |
| LAB   | ADMIN                            | OTHER |       |                   |           |       |
| 1     | 49.300                           | 4.900 | 0.000 | 54.200            | 0.302     | 1.490 |

...MISSION

PRINCIPAL NAVY ACTIVITY FOR CONDUCTING HUMAN RESOURCES RDT&E IN THE AREAS OF MANPOWER PERSONNEL EDUCATION AND TRAINING AND TO SERVE AS THE COORD ACTIVITY FOR ALL SUCH RDT&E FOR NAVY. PROVIDE SUPPORT TO CNM ACTIVITIES TO AUGMENT HUMAN FACTORS EFFORTS IN DEVELOPMENT OF NEW SYSTEM

...CURRENT IMPORTANT PROGRAMS

PERSONNEL ACQUISITION AND INITIAL ASSIGNMENT

HUMAN PERFORMANCE IN NAVY SYSTEMS

PERSONNEL EDUCATION AND TRAINING

PERSONNEL MANAGEMENT

FACTORS IN PERSONNEL EFFECTIVENESS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

GENERAL AUTOMATION 18/30 COMPUTER SYSTEM WITH REMOTE JOB ENTRY CAPABILITY TO OTHER COMPUTER CENTERS

LABORATORY INSTRUMENT CONTROL SYSTEM. COMPUTER AUTOMATED TESTING AND TRAINING SYSTEM. TEKTRONIC GRAPHIC TERMINALS INTERFACING WITH NAVAL UNDERSEAS CENTER UNIVAC 1100 MAXICOMPUTER. PLATO IV TERMINALS INTERFACING WITH COMPUTER AT U OF ILL

INSTALLATION: RESEARCH LABORATORY

WASHINGTON, D.C.

C.O. CAPT L.M. NOEL

DIR. OF SCH. DR. ALAN BERMAN

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 141.364          | 151.828             |
| TOTAL PROCUREMENT     | 8.457            | 9.302               |
| TOTAL D&M             | 19.711           | 21.682              |
| TOTAL OTHER           | 11.619           | 13.049              |
| TOTAL ANNUAL LAB      | 181.151          | 195.861             |
| TOTAL INHOUSE         | 155.114          | 174.124             |
| TOTAL INHOUSE RDT&E   | 115.327          | 130.091             |
| ANNUAL OPERATING COST | 45.240           | 48.695              |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 133                    | 0             | 34            | 99           |
| CIVILIAN  | 3607                   | 507           | 1524          | 1983         |
| TOTAL     | 3640                   | 507           | 1558          | 2082         |

| ACRES | SPACE AND PROPERTY               |         |         | COST (MILLION \$) |        |           |
|-------|----------------------------------|---------|---------|-------------------|--------|-----------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB     | ADMIN   | OTHER             | TOTAL  | REAL PROP |
| 699   | 2140.804                         | 236.893 | 994.454 | 2972.151          | 82.745 | 77.969    |

...MISSION

TO CONDUCT A BROADLY BASED MULTIDISCIPLINARY PROGRAM OF SCIENTIFIC RESEARCH AND ADVANCED TECHNOLOGICAL DEVELOPMENT DIRECTED TOWARD NEW AND IMPROVED MATERIALS, EQUIPMENT, TECHNIQUES, SYSTEMS, AND RELATED OPERATIONAL PROCEDURES FOR THE NAVY.

...CURRENT IMPORTANT PROGRAMS

NAVSTAR GLOBAL POSITIONING SYSTEM

EFFECTIVENESS OF NAVAL ELECTRONICS WARFARE SYSTEMS

HIGH ENERGY LASER, GENERATION, PROPAGATION, AND EFFECTS PROGRAM

ADVANCED ACOUSTIC ANTI-SUBMARINE WARFARE SURVEILLANCE PROGRAM

SATELLITE PROGRAMS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

PRINCIPAL RESEARCH AND DEVELOPMENT LABORATORY OF THE NAVY. PRIMARY AREAS ARE MATERIALS SCIENCE AND TECHNOLOGY, SPACE SCIENCE AND TECHNOLOGY, RADAR, ELECTRONIC WARFARE, LASER TECHNOLOGY, OPTICS, OPTICAL WARFARE, ELECTRONIC DEVICES, PLASMA AND NUCLEAR PHYSICS, INTELLIGENCE SUPPORT, UNDERSEA SURVEILLANCE, OCEAN SCIENCE AND TECHNOLOGY. MAJOR FACILITIES INCLUDE ONE SHIP FOR ACOUSTIC ASW RESEARCH, OCEANOGRAPHY, AND DEEP OCEAN RESEARCH. MAJOR ACOUSTIC STANDARD AND CALIBRATION FACILITIES. HIGH LEVEL RADIATION LABORATORY. THREE NUCLEAR PARTICLE ACCELERATORS. DIVERS HIGH ENERGY LASERS. 200 KILOGAUSS HIGH FIELD MAGNET FACILITY. SPACE SIMULATION FACILITIES.

INSTALLATION: SHIP RESEARCH AND DEVELOPMENT CENTER WASHINGTON, D.C.

C.O. CAPT M.C. DAVIS TECH. DIP. DR. A. POWELL

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 83.294                                   | 92.379              |
| TOTAL PROCUREMENT     | 8.931                                    | 6.739               |
| TOTAL C&M             | 15.381                                   | 18.746              |
| TOTAL OTHER           | 7.733                                    | 7.116               |
| TOTAL ANNUAL LAB      | 115.339                                  | 124.980             |
| <br>TOTAL INHOUSE     | 93.669                                   | 95.620              |
| TOTAL INHOUSE RDT&E   | 63.660                                   | 67.934              |
| ANNUAL OPERATING COST | 29.430                                   | 31.789              |

| PERSONNEL | PERSONNEL DATA (END OF FY 1976) |               | NON-<br>PROF |
|-----------|---------------------------------|---------------|--------------|
|           | AUTHORIZED<br>STRENGTH          | TOTAL<br>PHDS |              |
| MILITARY  | 70                              | 1             | 17           |
| CIVILIAN  | 2771                            | 125           | 1221         |
| TOTAL     | 2841                            | 126           | 1238         |

| ACRES | SPACE AND PROPERTY               |         |          | COST (MILLION \$)     |        |        |
|-------|----------------------------------|---------|----------|-----------------------|--------|--------|
|       | SPACE (THOUSANDS OF SQUARE FEET) |         |          | TOTAL REAL PROP EQUIP |        |        |
|       | LAB                              | ADMIN   | OTHER    | TOTAL                 | 71.138 | 44.766 |
| 322   | 388.522                          | 192.814 | 1405.676 | 1987.212              |        |        |

...MISSION

TO BE THE PRINCIPAL NAVY RDT&E CENTER FOR NAVAL VEHICLES, TO PROVIDE RDT&E SUPPORT TO THE U.S. MARITIME ADMINISTRATION AND THE MARITIME INDUSTRY.

...CURRENT IMPORTANT PROGRAMS

ADVANCED SHIP AND AIRCRAFT R&D (HYDROFOILS, SMALL WATERPLANE AREA TWIN HULL SHIP, AMPHIBIOUS ASSAULT LANDING CRAFT, SURFACE EFFECT SHIPS, CIRCULATION CONTROL AIRCRAFT). HYDROMECHANICS, MATERIALS, STRUCTURES, PROPULSION & AUX MACHINERY FOR SHIPS, SUBS & BOATS. SURFACE SHIP & SUB SILENCING. COMPUTER-AIDED SHIP DESIGN & CONSTRUCTION. LOGISTICS.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

PLAN AND CONDUCT RDT&E AND PROVIDE SUPPORT OF THE OPERATING FORCES IN THE AREAS OF NAVAL ARCHITECTURE, HYDROMECHANICS, STRUCTURAL MECHANICS, AERODYNAMICS, COMPUTER ANALYSIS & MATHEMATICS, ACOUSTICS & VIBRATIONS, PROPULSION AND AUXILIARY MACHINERY, SHIP ELECTRICAL SYSTEMS, MATERIAL FOR SHIP STRUCTURES AND EQUIPMENT, SHIPBOARD POLLUTION CONTROL. FACILITIES INCLUDE: DEEP, SHALLOW, AND HIGH SPEED TOWING BASINS, MANEUVERING-SEAKEEPING AND ROTATING ARM TOWING BASINS, TRANSONIC AND SUBMERGENCE PRESSURE TANKS, ACOUSTIC DATA ANALYSIS CENTER, ANECHOIC FLOW FACILITY, LARGE SCALE STRUCTURAL RESEARCH FACILITY, MAGNETICS FACILITY, POLLUTION CONTROL LABORATORY, AND BALLAST BLOC FACILITY.

INSTALLATION: SUBMARINE MEDICAL RESEARCH LABORATORY

GROTON CT

C.O. CAPT R.L. SPHAR

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1975<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 1.653                                    | 1.924               |
| TOTAL PROCUREMENT     | 0.000                                    | 0.000               |
| TOTAL F&M             | 0.000                                    | 0.000               |
| TOTAL OTHER           | 0.424                                    | 0.510               |
| TOTAL ANNUAL LAB      | 2.077                                    | 2.434               |
| TOTAL INHOUSE         | 2.077                                    | 2.434               |
| TOTAL INHOUSE RDT&E   | 1.653                                    | 1.924               |
| ANNUAL OPERATING COST | 0.303                                    | 0.320               |

| PERSONNEL | AUTHORIZED<br>STRENGTH | PERSONNEL DATA (END OF FY 1976) |     | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------------------------|-----|---------------|--------------|
|           |                        | TOTAL                           | PNS |               |              |
| MILITARY  | 32                     | 6                               | 8   | 24            |              |
| CIVILIAN  | 60                     | 11                              | 29  | 31            |              |
| TOTAL     | 92                     | 17                              | 37  | 55            |              |

| ACRES | SPACE AND PROPERTY |       |        | COST (MILLION \$) |       |            |
|-------|--------------------|-------|--------|-------------------|-------|------------|
|       | LAB                | ADMIN | OTHER  | TOTAL             | REAL  | PROP EQUIP |
| 1     | 23.325             | 6.441 | 13.118 | 42.884            | 1.071 | 1.505      |

## ...MISSION

TO CONDUCT BASIC AND APPLIED RESEARCH IN SUBMARINE AND DIVING MEDICINE, CLOSED ENVIRONMENTS IN AREAS OF PHYSIOLOGY, PSYCHOLOGY, VISION, AUDITION, HUMAN FACTORS, MIL. APPLICATIONS, TO MEET NAVY REQUIREMENTS, FURNISH RESEARCH AND MEDICAL SUPPORT TO SUB AND DIVING SHORE AND FLEET COMD'S.

## ...CURRENT IMPORTANT PROGRAMS

1 LONGITUDINAL HEALTH STUDY OF SUBMARINERS AND DIVERS. 2 DYSBARIC OSTEO-NICROSIS IN NAVY DIV. RS. 3 SATURATION-EXCURSION ATA DIVES TO SHALLOW DEPTHS. 4 AUDITORY AND VISUAL TESTS AND EVALUATION OF SUBMARIN AND DIVING PERSONNEL IN OPERATIONAL STRESS ENVIRONMENTS. 5 HUMAN FACTORS EVALUATION OF PERSONNEL IN SUBMARIN. INFORMATION PROCESSING

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

HYPBARIC CHAMBERS, HUMAN-150 PSI, ANIMAL-300 AND 1000PSI. ENVIRO. CONTRL CHAMBERS. LABORATORIES-PUL. FUNC., X. RCIS, CARDIOPUL, PTCHEMISTRY, HISTO-PATH. VISION, HUMAN FACTORS, KIENGIN, AUDITORY, ANECHOIC RMS, AUDIT. TEST 3C TBS, MICROBIOL - ISOLATION LAB CLIN, MEDEXAM SUITE, X-RAY COPY FAC., PERSONNEL ASSESS SEC. ANIMAL CARE-HOUSING FAC, SURGICAL SUITE, COMPUTER APPLIC FAC, TECH. LIBRARY, APPARATUS SHOP, PUBLICATIONS SEC, GRAPHIC ARTS-PHOTO SEC, EQUIPMENT DIVER COMM SYS, GAS MIXER, CLSD CIR TV SYS, DOPPLER SYS, ANALOG-DIGITAL COMPUTER SYS, K-SP ANAL SYS, SPECTROPHOTMTR SONAR STACK SIM TEST SYS, SCINTILAT. CNTR, MULT-CH. MAG TAPE SYS, ATOMIC ABSORP SPECTROPHMTR. FLUIDIC CONTROL CONSOLE, AIR ION MONITORING SYSTEM GAS CHROMATOGRAPHS, ECG REC SYS, SPECTRUM ANAL, SPIROMETER PULMOTESTER TREADMILL, CARD PROCESSOR, TECHNICIAN AUTOPANAL, UNDERWATER TV SYSTEMS

INSTALLATION: SURFACE WEAPONS CENTER

SILVER SPRING, MD

C.O. CAPT C.J. RORIE

TECH. DPO. MR. JAMES F. COLVARD

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 174.938          | 156.255             |
| TOTAL PROCUREMENT     | 33.302           | 28.405              |
| TOTAL OEM             | 24.024           | 22.225              |
| TOTAL OTHER           | 12.337           | 15.001              |
| TOTAL ANNUAL LAB      | 244.601          | 221.886             |
| TOTAL INHOUSE         | 124.532          | 128.411             |
| TOTAL INHOUSE RDT&E   | 81.202           | 80.814              |
| ANNUAL OPERATING COST | 57.611           | 55.346              |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 128                    | 2             | 60            | 68           |
| CIVILIAN  | 5132                   | 251           | 2264          | 2868         |
| TOTAL     | 5260                   | 253           | 2324          | 2936         |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |         |          | COST (MILLION \$) |           |        |
|-------|----------------------------------|---------|----------|-------------------|-----------|--------|
|       | LAB                              | ADMIN   | OTHER    | TOTAL             | REAL PROP | EQUIP  |
| 5380  | 897.833                          | 259.161 | 1569.511 | 2726.505          | 90.663    | 66.292 |

...MISSION

TO BE THE PRINCIPAL NAVY RDT&E CENTER FOR SURFACE WARFARE WEAPONS SYSTEMS, ORDNANCE TECHNOLOGY, AND STRATEGIC SYSTEMS SUPPORT -

...CURRENT IMPORTANT PROGRAMS

TORPEDO MK48-1

CAPTOR DEVELOPMENT

HIGH ENERGY LASER RESEARCH AND DEVELOPMENT

GUIDANCE DATA FOR POLARIS/POSEIDON/ULMS/FBM SYSTEMS PROGRAM

5 IN GUIDED PROJECTILE

...FUNCTIONS/EQUIPMENT/CAPABILITIES

FACILITIES INCLUDE WIND TUNNELS TO MACH 20, BALLISTIC RANGES FOR FREE FLIGHT MODEL STUDIES, 1.75 MILLION GALLON CAPACITY HYDROBALLISTIC TANK, MAGNETIC STRUCTURE FACILITY TO STUDY MAGNETIC CHARACTERISTICS OF SHIPS, SUBMARINES, AND SATELLITES; WARFARE ANALYSIS CENTER, FBM DISC PACK PRODUCTION FACILITY, GUNNERY AND MISSILE RANGE COMPLEX, AND ELECTROMAGNETIC VULNERABILITY TEST FACILITY. CAPABILITIES FOR STRATEGIC SYSTEMS, NAVAL MINE SYSTEMS, MULTI MEDIA WEAPONS SYSTEMS, DIRECTED ENERGY SYSTEMS AND FUZE DEVELOPMENT, ORDNANCE TECHNOLOGY, ELECTROMAGNETIC WARFARE, MISSILE GUIDANCE; TACTICAL, STRATEGIC, AMPHIBIOUS AND MINE WARFARE ANALYSIS, SMALL CRAFT ARMAMENT, ANTITORPEDO WEAPONS SYSTEMS, WEAPONS SYSTEM-SAFETY, SWIMMER WEAPONS SYSTEMS, MATERIALS AND INSTRUMENTATION RESEARCH, AND MODEL FABRICATION.

INSTALLATION: UNDERSEA CENTER

SAN DIEGO CA

C.O. CAPT R.B. GILCHRIST

TECH. DIR. DR. H.L. BLOOD

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + FST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 69.764           | 85.453              |
| TOTAL PROCUREMENT     | 8.393            | 6.088               |
| TOTAL C&M             | 10.752           | 13.891              |
| TOTAL OTHER           | 9.838            | 5.939               |
| TOTAL ANNUAL LAB      | 98.747           | 111.371             |
| TOTAL INHOUSE         | 57.857           | 66.475              |
| TOTAL INHOUSE RDT&E   | 43.402           | 49.909              |
| ANNUAL OPERATING COST | 19.393           | 21.752              |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 280                    | 2             | 22            | 258          |
| CIVILIAN  | 1596                   | 122           | 798           | 798          |
| TOTAL     | 1876                   | 124           | 820           | 1056         |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |        |         | COST (MILLION \$) |        |            |
|-------|----------------------------------|--------|---------|-------------------|--------|------------|
|       | LAB                              | ADMIN  | OTHER   | TOTAL             | REAL   | PROP EQUIP |
| 37392 | 516.055                          | 96.935 | 390.049 | 1003.039          | 50.018 | 49.674     |

...MISSION

MISSION OF THE CENTER IS TO BE THE PRINCIPAL NAVY RESEARCH, DEVELOPMENT, TEST AND EVALUATION CENTER FOR UNDERSEA SURVEILLANCE, ADVANCED SURFACE AND AIR LAUNCHED UNDERSEA WEAPONS SYSTEMS, AND DEEP OCEAN TECHNOLOGY.

...CURRENT IMPORTANT PROGRAMS

ADV U/S SURVEILLANCE INCL LG APERTURE & TWDG ARRAYS, TDE OF MAJOR SURVL SYS. ADV SONAR T. KNICS, FLEET SONAR SYS IMPROVEMENT. ASW WEAPONS SYS DEV, EG ADV TORPEDO TECHNOL, SUB-LAUNCHED MISSILE TECHNOL, FIRE CONTROL SYS, ACCUS CIM, MARINE BIOSYS. USW OCEANOGR RSCH. OCEAN ENGRG EG REMOTE U/S WORK SYS.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

U/S SURVL. UNDERSEA/SURFACE WEAPONS & FIRE CONTROL SYS, LTWT TORPEDOES, HISPEED VEHICLES & HI RESOLUTION SONARS, UW ACOUSTIC WARFARE SYS, REMOTE CONTROL UW SYS, OCEAN TECHNOL & ENGRG, MARINE BIOSCI, MAR MAMMAL SYS, ACOUS PROPAGATION (PACTIARC), PACFLT ASW SUPPT, ARC SUP SYS. RDT&E LABS SDIEGO, HAWAII, SEA TEST/ENGRG RANGES SAN CLEMENTE IS, MERRIS DAM, LB BEACH, CALIBRATION STA. ARC ARC FIELD STA, ALASKA. ARC SUB LAB & POLAR ICE SIMULATOR. MAR BIOSCI FAC. MAJOR SIM/REALTIME COMPUTER FAC FOR ASW SYS DEV. TRANSDUCER EVAL CTR ANECHOIC ALL FREQUENCIES. RSCH SHIPS & CRAFT. DAPAAN FAC FOR DEV-EVAL OF SIG PROC TECHNICS. DEV/TEST FACS FOR LTWT AIRDROP TORPEDOES. UNMANNED REMOTE U/S WORK SYS EG CABLE-CONTROLLED UW RECOVR VEHICLE. UW OBSERV PLATFORMS, VAR ANGLE LAUNCHER.

INSTALLATION: UNDERWATER RANGES DIRECTORATE

NEWPORT, R.I.

C.O. CAPT W.L. BONHANNAN

TECH. DIR. MR. C.S. SOLTICZY

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 15.378                                   | 16.426              |
| TOTAL PROCUREMENT     | 0.333                                    | 0.298               |
| TOTAL OEM             | 3.609                                    | 3.223               |
| TOTAL OTHER           | 1.571                                    | 0.758               |
| TOTAL ANNUAL LAB      | 20.891                                   | 20.705              |
| TOTAL INHOUSE         | 5.059                                    | 5.630               |
| TOTAL INHOUSE RDT&E   | 3.812                                    | 4.575               |
| ANNUAL OPERATING COST | 0.000                                    | 0.000               |

| PERSONNEL | PERSONNEL DATA (END OF FY 1976) |               | NON-<br>PROF |
|-----------|---------------------------------|---------------|--------------|
|           | AUTHORIZED<br>STRENGTH          | TOTAL<br>PHDS |              |
| MILITARY  | 42                              | 0             | 17           |
| CIVILIAN  | 48                              | 1             | 30           |
| TOTAL     | 90                              | 1             | 47           |

| ACRES | SPACE AND PROPERTY |        |         | COST (MILLION \$) |           |       |
|-------|--------------------|--------|---------|-------------------|-----------|-------|
|       | LAB                | ADMIN  | OTHER   | TOTAL             | REAL PROP | EQUIP |
| 1042  | 67.000             | 11.173 | 266.044 | 344.217           | 23.575    | 1.175 |

...MISSION

TO PROVIDE DEEP WATER DEV & OPRTNL T&E FCLTYS FOR UNDRWTR ACSTIC MESSRMNTS, TSTNG, & CALIBRTNG SCNRNS. PROVIDE ACCURAT UNDRWTR, SFCE, & IN-AIR TRCKNG DATA ON SHIPS, SUBS, AIRCRFT, & WPN SYSTMS.

...CURRENT IMPORTANT PROGRAMS

MK48 WEAPON SYSTEMS TRAINING CERTIFICATION PROGRAM

SHIP SILENCING PROGRAM

FLEET TRAINING/SURRIC, SUBEX, SHAREM

AIRBORNE MINEX & TORPEX/RANGEX

R&D TESTS/CAPTOR/MP SCNR/TOWED ARRAYS/LAMPS/BQQ S/DICASS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

HIGHLY ADVANCED & INSTRUMENTED ASW WEAPONS, SCNR & FORADS TEST MEASUREMENT RANGES IN SUPPORT OF NAVY ASW & UNDRESEA R&D PROGRAMS, & ASW FLEET ASSESSMENT & OPERATIONAL READINESS.

## INSTALLATIONS: UNDERWATER SYSTEMS CENTER

NEWPORT, RI

C.O. CAPT W.L. BOHANNAN

TECH. DIR. DR. C. NICHOLAS PRYOR

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 69.442           | 101.110             |
| TOTAL PROCUREMENT     | 65.483           | 53.825              |
| TOTAL D&M             | 36.071           | 53.492              |
| TOTAL OTHER           | 6.112            | 11.447              |
| TOTAL ANNUAL LAB      | 177.108          | 219.874             |
| <br>TOTAL INHOUSE     | 101.658          | 132.565             |
| TOTAL INHOUSE RDT&E   | 49.739           | 62.553              |
| ANNUAL OPERATING COST | 25.470           | 29.144              |

## PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHCS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 104                    | 1             | 27            | 77           |
| CIVILIAN  | 3019                   | 96            | 1592          | 1427         |
| TOTAL     | 3123                   | 97            | 1619          | 1504         |

| ACRES | SPACE AND PROPERTY               |         |         | COST (MILLION \$) |        |                 |
|-------|----------------------------------|---------|---------|-------------------|--------|-----------------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB     | ADMIN   | OTHER             | TOTAL  | REAL PROP EQUIP |
| 314   | 842.244                          | 107.528 | 532.373 | 1482.150          | 35.202 | 39.285          |

## ...MISSION

TO BE THE PRINCIPAL NAVY RDT&E CENTER FOR SUBMARINE WARFARE & SUBMARINE WEAPON SYSTEMS.

## ...CURRENT IMPORTANT PROGRAMS

ADVNCD TECHNGY IN U/W ACCUTCS, OCEAN ENGRNG, INFO PROCSNG, WEAPONRY  
DESGN, DEV & EVAL U/W COMBAT SUB SYSTEMS INCNDG SURFC SHIP SONAR MCDRNZTN  
RDT&E FOR OVERALL U/W COMBAT SYSTEMS (TRIDENT, 688, ETC)  
DESGN, DEV & EVAL OF U/W TARGET SYSTEMS & MOBILE/FIXD U/W TEST RANGES  
INTRODUCE TO FLEET & IN-SERVICE ENGINEERING OF MK 48

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

PRIMARY IN-HSE R&D CAPABILITY FOR NAVY & MARINE CRP SYSTEMS, SUBSYSTEMS & T-  
ECHNLGYS FOR SONAR SYSTEMS (HULL-TCWD/SUB COMCTNS SYSTEMS INTEGRATION/SUB ANT-  
ENA SYSTEMS/UWTR M-AP SYSTEMS/UWTR TARGT SYSTEMS/UWTR ACOUSTIC PROPTNL (ANT  
& MED) /UWTR RNGE TECHNLGY/REDINNESS OF IN-SRVC SHIPBORD UWTR SYSTEMS/ASH  
SUP, CINCLNT, TORPEDO TEST RNGES (FIXED/PORTABLE) /SHLOW & DP WTR. ASW WEAPON F-  
IRE CNTRL R&D FACILITY. ASW WEPCN LAUNCHNG DEVCE R&D FACLTY. QLTY ENGRNG,  
VALTN & RELIABLTY LAB. BERMUDA RSCH FACLTY. TORPEDO PROPULSN TEST FACLTY.  
ELECTROMAGNETIC FACLTY. SYSTEMS CRIFCTN & INTGRTN FACLTY. ACOUSTC MSRMNT &  
XOCER R&E FACLTY. TORPEDO TEST RANGE. INSTRMNNTN SHELTER. ACOUSTC RNGE. AUTEC.  
AZORES FIXED ACOUSTIC RNGE.

INSTALLATION: WEAPONS CENTER

CHINA LAKE, CA

C.G. RADM R.G. FREEMAN, III

TECH. DIR. DR G.L. HOLLINGSWORTH

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + FST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 125.055          | 159.902             |
| TOTAL PROCUREMENT     | 40.902           | 35.981              |
| TOTAL G&M             | 12.895           | 9.910               |
| TOTAL OTHER           | 38.492           | 28.321              |
| TOTAL ANNUAL LAB      | 217.344          | 234.114             |
| <br>TOTAL INHOUSE     | 125.047          | 147.958             |
| TOTAL INHOUSE RDT&E   | 79.300           | 99.541              |
| ANNUAL OPERATING COST | 35.767           | 40.000              |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHUS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 516                    | 0             | 49            | 467          |
| CIVILIAN  | 4366                   | 138           | 1482          | 2884         |
| TOTAL     | 4382                   | 138           | 1531          | 3351         |

SPACE AND PROPERTY

| ACRES   | SPACE (THOUSANDS OF SQUARE FEET) |         |          | COST (MILLION \$) |           |        |
|---------|----------------------------------|---------|----------|-------------------|-----------|--------|
|         | LAB                              | ADMIN   | OTHER    | TOTAL             | REAL PROP | EQUIP  |
| 1093634 | 101.020                          | 357.595 | 5735.192 | 6193.807          | 221.995   | 79.717 |

...MISSION

THE MISSION OF THE NAVAL WEAPONS CENTER IS TO BE THE PRINCIPAL NAVY RDT&E CENTER FOR AIR WARFARE SYSTEMS (EXCEPT ANTI-SURFACE WARFARE SYSTEMS) AND MISSILE WEAPON SYSTEMS.

...CURRENT IMPORTANT PROGRAMS

HARPOON-MISSILE SUPPORT; C WARHEAD ETC.  
HARM-HIGH SPEED ANTI RADIATION MISSILE  
AIM-9L-GUIDED AIR LAUNCHED INTERCEPTOR MISSILE  
A-7 AIRCRAFT SUPPORT  
FAE FUEL AIR EXPLOSIVE

...FUNCTIONS/EQUIPMENT/CAPABILITIES

SHALL ESTABLISH AND MAINTAIN PRIMARY IN-HOUSE DEVELOPMENT, TEST, EVALUATION, AND IN-SERVICE ENGINEERING SUPPORT CAPABILITY FOR SPECIFIC NAVY AND MARINE CORPS PRODUCT LINES SUCH AS ANTI-AIR MISSILES, ETC.  
FACILITIES INCLUDE: MICHELSON LABORATORY, ELECTRONIC WARFARE RANGE, SOLID STATE DEVICES LABORATORY, FUZE TEST RANGE, PROPULSION RESEARCH, LABORATORY MICROELECTRONICS FACILITY, EXPLOSIVES RESEARCH, AND DEVELOPMENT FACILITY, GROUND AND AIRCRAFT RANGES, EXTERIOR AND TERMINAL BALLISTICS RANGES, NAVAL AIR FACILITY, AIRCRAFT SURVIVABILITY FACILITY, SUPERSONIC TEST TRACKS, MICROWAVE ANECHOIC FACILITIES, LASER LABORATORY, DEVELOPMENT FACILITY; GROUND AND AIRCRAFT RANGES; EXTERIOR AND TERMINAL

## INSTALLATION: WEAPONS EVALUATION FACILITY

ALBUQUERQUE, N.M.

C.O. CAPT R.H. CALDWELL

TECH.DIR. MR F.X. BUSHNER

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 1.747                                    | 1.568               |
| TOTAL PROCUREMENT     | 1.044                                    | 0.883               |
| TOTAL O&M             | 1.735                                    | 1.516               |
| TOTAL OTHER           | 4.038                                    | 3.395               |
| TOTAL ANNUAL LAB      | 8.564                                    | 7.362               |
| <br>TOTAL INHOUSE     | 8.564                                    | 7.362               |
| TOTAL INHOUSE RDT&E   | 1.747                                    | 1.568               |
| ANNUAL OPERATING COST | 0.837                                    | 0.740               |

| PERSONNEL | PERSONNEL DATA (END OF FY 1976) |               | NON-<br>PROF |
|-----------|---------------------------------|---------------|--------------|
|           | AUTHORIZED<br>STRENGTH          | TOTAL<br>PHDS |              |
| MILITARY  | 149                             | 0             | 53           |
| CIVILIAN  | 116                             | 0             | 46           |
| TOTAL     | 265                             | 0             | 99           |

| ACRES | SPACE AND PROPERTY               |        |        | COST (MILLION \$) |       |                 |
|-------|----------------------------------|--------|--------|-------------------|-------|-----------------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN  | OTHER             | TOTAL | REAL PROP EQUIP |
| 7     | 0.400                            | 53.592 | 94.926 | 148.918           | 9.600 | 0.571           |

## ...MISSION

MISSION: TEST, EVALUATE, AND PROVIDE OTHER TECHNICAL AND ENGINEERING SUPPORT FOR NUCLEAR AND ASSIGNED NON-NUCLEAR WEAPON SYSTEMS. CONDUCT SAFETY STUDIES ON NUCLEAR WEAPON SYSTEMS. PLAN AND COORDINATE THE NAVY NUCLEAR WEAPON SAFETY PROGRAM. CONDUCT NUCLEAR BIS ON NAVY ACFT.

## ...CURRENT IMPORTANT PROGRAMS

SUPPORT TO ERDA-COO PHASE 3 FOR TOMAHAWK PROGRAM  
 CONDUCT OF NAVY-ERDA SAFETY REVIEW OF NUCLEAR WEAPON SYSTEMS IN STOCKPILE  
 CONDUCT OF JCS NUCLEAR WEAPONS STOCKPILE IMPROVEMENT STUDY  
 ASSIST USA IN DEVELOPMENT OF NEW PROJECTILES  
 ASSIST IN PROVIDING A-10 AIRCRAFT WITH A NUCLEAR WEAPON CAPABILITY

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

INSP AND SURVEY OF NUCLEAR CAPABLE SHIPS. DEVELOP CHECK LISTS AND LOAD-ING MANUALS FOR NUCLEAR AND NON-NUCLEAR WEAPONS. CONDUCT NUCLEAR WEAPONS SAFETY ANALYSES, EVALUATE HANDLING EQUIPMENT, AND PROVIDE FLIGHT SUPPORT TO ERDA LABS AND OTHER SERVICES. CONDUCT LASER RESEARCH IN CONJUNCTION WITH USAF. CONDUCT VULNERABILITY STUDIES.

TA-4J, A-7A, A-7C, F-4B, CV-10, AND C-118 ACFT AND MAINTENANCE CAPABILITY.  
 AIRBORNE HIGH-SPEED CAMEPA, TELEMETRY, TAPE RECORDER, OSCILLOGRAPHS, ACCELEROMETERS, TEMP. AND PRESS. SENSORS. ACCESS TO USAF ENVIRONMENTAL TEST FACILITIES INCLUDING NUCLEAR ELECTROMAGNETIC PULSE, TRANSIENT RADIATION EFFECTS ON AND BLAST FACILITIES. ACCESS TO USAF AND ERDA LABORTORIES CDC 6600 AND 7600 COMPUTERS, DROP TEST FACILITIES, EXPLOSIVE STORAGE MAGAZINES, AND WAPCN ASSEMBLY AREAS.

**DEPARTMENT OF THE AIR FORCE**

INSTALLATION: AERO PROPULSION LABORATORY

WPAFB, OH

CDR COL. JAMES R. NELSON

CH. SCI. DR. HANS VON OHAIN

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 60.401           | 61.453              |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL OEM             | 0.000            | 0.000               |
| TOTAL OTHER           | 0.949            | 0.983               |
| TOTAL ANNUAL LAB      | 61.350           | 62.436              |
| <br>TOTAL INHOUSE     | 11.426           | 12.045              |
| TOTAL INHOUSE RDT&E   | 10.477           | 11.062              |
| ANNUAL OPERATING COST | 2.241            | 2.075               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 49                     | 6             | 43            | 6            |
| CIVILIAN  | 354                    | 25            | 191           | 163          |
| TOTAL     | 403                    | 31            | 234           | 169          |

| ACRES | SPACE AND PROPERTY |        |         | COST (MILLION \$) |           |        |
|-------|--------------------|--------|---------|-------------------|-----------|--------|
|       | LAB                | ADMIN  | OTHER   | TOTAL             | REAL PROP | EQUIP  |
| 40    | 227.103            | 32.999 | 390.434 | 650.536           | 12.303    | 18.849 |

...MISSION

PLAN, FORMULATE, AND EXECUTE RESEARCH AND EXPLORATORY, ADVANCED AND PROTOTYPING DEVELOPMENT PROGRAMS IN AIR-BREATHING PROPULSION, AEROSPACE POWER GENERATION AND DISTRIBUTION, AIRCRAFT FUELS, FUEL AND LUBRICATION SYSTEMS, AND FIRE PROTECTION. PROVIDE OPERATIONAL AND SYSTEMS SUPPORT.

...CURRENT IMPORTANT PROGRAMS

ADVANCED TURBOFAN ENGINE TECHNOLOGY DEMONSTRATORS  
OPTIMIZE AVAILABILITY AND COST OF AVIATION TURBINE FUELS  
VARIABLE CYCLE ENGINES FOR MULTI-MISSION AIRCRAFT  
RAMJETS FOR TACTICAL MISSILES  
AIRBORNE HIGH POWER FOR LASER SYSTEMS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

TURBINE ENGINE CONTROL TEST FAC, BATTERY DEVELOPMENT AND TEST FAC, MHD GENERATOR, LUBRICANT RIGS, SEAL TEST RIGS, BEARING RIGS, FUEL HANDLING FAC, FIRE RESEARCH LAB, COKER LAB, FUEL ANALYSIS LAB, COMBUSTION FAC, ROTOR TEST FAC, 6 SEA LEVEL TEST STANDS TO 20,000 LB THRUST, 2 TURBINE ENGINE ALTITUDE CELLS TO 5,000 LB THRUST-MACH 1.5-50,000 FT, 3 PROPELLER WHIRL RIGS TO 10,000 HP, DIRECT CONNECT RAMJET TEST FAC, RAMJET COMPONENTS LAB, ELECTRO AERODYNAMIC LASER, HIGH TEMPERATURE TURBINE COMPONENT TEST FAC, SAND EROSION RIG, AIRCRAFT SOLID STATE ELECTRICAL POWER FAC WITH THREE 350 HP DRIVE SOURCES AND AIRCRAFT SIMULATORS, VACUUM CHAMBERS, FUEL CELL LAB, SUPERCONDUCTIVITY LAB, HIGH POWER LAB TO 5 MW, THERMAL ENERGY STORAGE LAB, HYDRAULICS LAB, PLASMA PHYSICS LAB, 2 TURBOPROP TORQUE STANDS TO 8000 HP, HOLOGRAPHY LAB

INSTALLATION: ARMAMENT DEVELOPMENT AND TEST CENTER

EGLIN AFB, FL.

COR. MG H.M. LANE

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 98.508                                   | 126.137             |
| TOTAL PROCUREMENT     | 279.462                                  | 200.000             |
| TOTAL OEM             | 75.834                                   | 83.713              |
| TOTAL OTHER           | 76.305                                   | 59.767              |
| TOTAL ANNUAL LAB      | 530.109                                  | 469.617             |
| <br>TOTAL INHOUSE     | 173.591                                  | 180.292             |
| TOTAL INHOUSE RDT&E   | 33.009                                   | 37.166              |
| ANNUAL OPERATING COST | 60.295                                   | 61.561              |

| PERSONNEL | PERSONNEL DATA (END OF FY 1976) |          | TOTAL | TOTAL | NON- |
|-----------|---------------------------------|----------|-------|-------|------|
|           | AUTHORIZED                      | STRENGTH |       |       |      |
| MILITARY  | 4379                            | 92       | 1247  | 3132  |      |
| CIVILIAN  | 2900                            | 20       | 484   | 2416  |      |
| TOTAL     | 7279                            | 112      | 1731  | 5548  |      |

| ACRES  | SPACE AND PROPERTY               |         |          | COST (MILLION \$) |         |                 |
|--------|----------------------------------|---------|----------|-------------------|---------|-----------------|
|        | SPACE (THOUSANDS OF SQUARE FEET) | LAB     | ADMIN    | OTHER             | TOTAL   | REAL PROP EQUIP |
| 464248 | 131.545                          | 553.506 | 9060.802 | 9745.853          | 201.451 | 400.000         |

...MISSION

RESPONSIBLE FOR AIR-LAUNCH TAC AND AIR DEF MISSILES, NONNUCLEAR MUN, GLIDED WEAP, ELEC-OPTICAL WEP DEL SYS, A/C GUN, AMMO, RELATED EQUIP. RESPON FOR BASIC TECHNOLOGIES THRU DEVEL, TEST, ACQ AND DEPLOY. TEST MISSION INCL LEAD CENTER IN MUNITION, EMW, INTRUSION/INTERDICTION, AND CLIMATIC SIMUL.

...CURRENT IMPORTANT PROGRAMS

SPECIFIC FORCE INTEGRATED RECEIVER/ACCL, FX-1 GYRC TEST/SFIR-J FX-1 TEST/IMAGING IR FREE FLIGHT DEMO  
ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE  
DT AND E/IOT AND E 20GB-2  
DT AND E/IOT AND E 20GB-2 PHASE 2

...FUNCTIONS/EQUIPMENT/CAPABILITIES

A CAPABILITY OF SCIENTIFIC/ENGINEERING PERSONNEL AND LABORATORIES FOR EXPL, ADV, E&ENG DEV IN THE AREA OF NONNUCLEAR MUNITIONS. ARMAMENT SYSTEMS TEST ENVIRONMENT COVERING 728 SQ MI WITH LARGE ADJACENT WATER AREA; HAS 28 TEST AREAS WITH INSTRUMENTED FACILITIES INCLUDING PRECISION TRACKING RADARS AND PHOTO-OPTICS; IS USED FOR MUNITIONS TESTS AND ELECTROMAGNETIC TEST ENVIRONMENT; IS AN INSTRUMENTED COMPLEX OF THREAT SYSTEMS FOR EVAL EFFECT AND SYS TEST ENVIRON PROVIDES A REALISTIC ENVIRON FOR TEST WPNS ENVIRONMENT; PROVIDES A REALISTIC ENVIRONMENT FOR TESTING A WEAPON SYSTEM AGAINST AN ACTIVE DEFENSE SYS; A CLIMATIC LAB CAPABLE OF TESTING COMPLETE WPNS SYSTEMS, A COMPUTER SCIENCE LAB, A PHYSICAL SCIENCES LAB, A PHOTO LAB, AN INSTRUMENTATION/DESIGN/FABRICATION FACILITY, AF40BALLISTIC RESEARCH FAC, HIGH EXPLOSIVE R/D FACILITY, & A MISSILE SIM AND TEST LAB.

INSTALLATIONS: ARNOLD ENGINEERING DEVELOPMENT CENTER TULLAHOMA, TN.

CDR. COL. OLIVER H. TALLMAN CH. SCI. DR. WM. H. HEISER

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 97.394           | 99.061              |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL OEM             | 0.041            | 0.040               |
| TOTAL OTHER           | 7.687            | 441.446             |
| TOTAL ANNUAL LAB      | 105.122          | 540.547             |
| TOTAL INHOUSE         | 99.205           | 100.959             |
| TOTAL INHOUSE RDT&E   | 97.394           | 99.061              |
| ANNUAL OPERATING COST | 10.700           | 11.452              |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 84                     | 8             | 57            | 27           |
| CIVILIAN  | 152                    | 5             | 61            | 91           |
| TOTAL     | 236                    | 13            | 118           | 118          |

| ACRES | SPACE AND PROPERTY |         |         | COST (MILLION \$) |           |        |
|-------|--------------------|---------|---------|-------------------|-----------|--------|
|       | LAB                | ADMIN   | OTHER   | TOTAL             | REAL PROP | EQUIP  |
| 39875 | 1151.654           | 201.411 | 534.954 | 1888.019          | 374.992   | 66.871 |

...MISSION

PRIMARY MISSION IS TO SUPPORT THE TIMELY ACQUISITION OF SUPERIOR AEROSPACE SYSTEMS BY CONDUCTING RESEARCH AND DEVELOPMENT TESTS IN GROUND ENVIRONMENTAL TEST FACILITIES WHICH SIMULATE THE ACTUAL CONDITIONS THAT THE HARDWARE WILL EXPERIENCE IN PERFORMING ITS MISSION

...CURRENT IMPORTANT PROGRAMS

CONTINUED B-1 ENGINE DEVELOPMENT TESTS AND AERODYNAMIC PERFORMANCE TESTS  
CONTINUED F-15 STORE SEPARATION TESTS AND ENGINE COMPONENT IMPROVEMENT  
CONDUCTED DEVELOPMENT TESTS ON F-16, A-10, A-7, H-X, AND COMPASS COPI  
CONTINUED EXTENSIVE MINUTEMAN PSRE, PWA AND AGING AND SURVEILLANCE TESTS  
OTHER SIGNIF TESTS. TRIDENT, ABRES, SPACE SHUT LE, BIRD IMPACT, SENSOR PER

...FUNCTIONS/EQUIPMENT/CAPABILITIES

AECD IS COMPRISED OF ABOUT 40 TEST UNITS. INCLUDED ARE WIND TUNNELS WITH TEST SECTIONS TO 16 FT SQ AND SPEEDS FROM SUBSONIC TO MACH 22, TURBINE ENGINE TEST CELLS WHICH PROVIDE SIMULATION TO MACH 3, ROCKET TEST CELLS, THE LARGEST RATED AT .5 MILLION LBS THRUST AT ALTITUDE, SPACE SIMULATION CHAMBERS TO 42 FT DTS AND 82 FT HIGH, HYPERSONIC RANGES, DUST AND SNOW EROSION FACILITY, BIRD IMPACT FACILITY, SEVERAL CAPTIV TRAJECTORY SYSTEMS. THESE FACILITIES HAVE ESSENTIALLY SUPPORTED THE DEVELOPMENT AND QUALIFICATION OF EVERY MAJOR AERONAUTICAL, MISSILE AND SPACE SYSTEM DEVELOPMENT SINCE 1954. BY PLANNING FOR AN ADEQUATE GROUND ENVIRONMENTAL TEST PROGRAM IN THESE FACILITIES, DEVELOPMENT PROGRAM MANAGERS CAN ASSURE THAT SYSTEM DESIGN DEFICIENCIES ARE FOUND EARLY, PREVENTING COST AND SCHEDULE OVERRUNS.

INSTALLATIONS: AVIONICS LABORATORY

WPAFB, OH.

DIR DR WILLIAM EPPERS

CDR COL J.C. RICH

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 125.294          | 127.000             |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL OEM             | 0.000            | 0.000               |
| TOTAL OTHER           | 3.078            | 3.100               |
| TOTAL ANNUAL LAB      | 128.372          | 130.100             |
| TOTAL INHOUSE         | 18.638           | 20.100              |
| TOTAL INHOUSE RDT&E   | 15.560           | 17.000              |
| ANNUAL OPERATING COST | 3.500            | 3.600               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 179                    | 12            | 147           | 32           |
| CIVILIAN  | 821                    | 35            | 460           | 361          |
| TOTAL     | 1000                   | 47            | 607           | 393          |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |        |         | COST (MILLION \$) |           |        |
|-------|----------------------------------|--------|---------|-------------------|-----------|--------|
|       | LAB                              | ADMIN  | OTHER   | TOTAL             | REAL PROP | EQUIP  |
| 230   | 229.901                          | 12.152 | +12.829 | 654.882           | 22.252    | 66.000 |

...MISSION

MAINTAINS A BASE OF AVIONICS TECH&DEVELOPSCDEMONSTRATES COST-EFFECTIVE AVIONICS SYSTEMS TO IMPROVE OPERATIONAL CAPABILITIES AND REDUCE ACQ/OPN COST IN NAV, COMM, EW, RECON, WPN, DELIVERY&MODIFICATION OF AVIONICS IN THE INVENTORY.

...CURRENT IMPORTANT PROGRAMS

DIGITAL AVIONICS INTEGRATED SYSTEMS FOR AEROSPACE APPLICATIONS

ADVANCED POWER MANAGEMENT

ELECTRONICALLY AGILE RADAR

GPS-INERTIAL

RADAR&GUIDANCE TECHNIQUES FOR DETECTION, TRACKING, ADVRS-WEATHER&WEAP DELVRY

...FUNCTIONS/EQUIPMENT/CAPABILITIES

CONDUCTS IN-HSE R&D TO MAINTAIN A HIGH DEGREE OF TECHNICAL COMPETENCE. ACTS AS AFSC FOCAL POINT FOR INFO IN ASSIGNED TECHNICAL AREAS. EXECUTES ASSIGNED PROJECTS FOR AND WORKS CLOSELY WITH ARMY, NAVY, NASA, ARPA, OTHER GOVT AGENCIES. SUPPORTS AFSC PROGRAMS AND INSURES THE RAPID APPLICATION OF RESEARCH&TECHNOLOGY TO ADVANCED SYSTEMS. PROVIDES TECHNICAL SUPPORT TO CURRENT&FUTURE SYSTEMS PROGRAMS&OPERATIONAL PROJECTS IN AREAS OF ASSIGNED MISSION. PERFORMS CONCEPTUAL PLANNING, ANALYSIS&STUDIES. MAJOR FAC/EQUIP ARE DYNAMIC ANALYZER FOR ADVANCED RECON SYSTEMS-LASER RESEARCH FAC-SOLID STATE INTEGRATED CIRCUITS LAB ECM OEM SIMULATION FAC. COMMUNICATIONS SYSTEMS EVALUATION LAB. RECON SYSTS CHARACTERIZATION EVAL.FAC. UNDER REAL-WORLD ENVIRONMENTAL CONDITIONS.

INSTALLATION: CIVIL ENGINEERING CENTER

TYNDALL AFB FL

CDR. CCL ROBERT M. ITEN

TECH DIR MR. ROBERT E. BRANDON

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDTE            | 4.137            | 6.250               |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL CCM             | 1.862            | 1.706               |
| TOTAL OTHER           | 2.758            | 3.000               |
| TOTAL ANNUAL LAB      | 8.797            | 10.956              |
| <br>TOTAL INHOUSE     | 4.234            | 5.144               |
| TOTAL INHOUSE RDTE    | 0.414            | 0.938               |
| ANNUAL OPERATING COST | 0.100            | 0.100               |

PERSONNEL DATA (END OF FY 1976)

| PERSO-NEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 189                    | 10            | 75            | 114          |
| CIVILIAN  | 27                     | 3             | 17            | 10           |
| TOTAL     | 216                    | 13            | 92            | 124          |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |        |        | COST (MILLION \$) |           |       |
|-------|----------------------------------|--------|--------|-------------------|-----------|-------|
|       | LAB                              | ADMIN  | OTHER  | TOTAL             | REAL PROP | EQUIP |
| 760   | 10.136                           | 22.391 | 27.612 | 60.139            | 1.285     | 2.535 |

...MISSION

AFCEC PROVIDES TECHNICAL SERVICES AND PLANNING ASSISTANCE IN THE CIVIL ENGINEERING (CE) AND ENVIRONMENTAL PLANNING AREAS, FUNCTIONS AS USAF LEAD CENTER FOR CE AND ENVIRONMENTAL QUALITY R AND P, AND IS THE LEAD TESTING AGENCY FOR CE RELATED SYSTEMS, TECHNIQUES, MATERIALS, AND EQUIP.

...CURRENT IMPORTANT PROGRAMS

SURVIVABILITY/VULNERABILITY OF AEROSPACE FACILITIES

WARM FOG DISPERAL SYSTEM FOR AIRFIELDS

ENVIRONMENTAL QUALITY AND PLANNING RESEARCH

NEW AIRCRAFT OPERATIONAL SURFACES AND RAPID REPAIR SYSTEMS

SPECIALIZED CIVIL ENGINEERING SERVICES AND ASSISTANCE TO USAF

...FUNCTIONS/EQUIPMENT/CAPABILITIES

AFCEC HAS LABORATORIES AND TEST SITES TO PERFORM QUALITATIVE AND QUANTITATIVE MEASUREMENTS ON CORROSION, ENGINEERING MATERIAL, PAVEMENTS, SOIL MECHANICS, AIR QUALITY, WASTE TREATMENT PROCESS, FIRE EXTINGUISHERS AND AGENTS, AND HARDENED AIRCRAFT SHELTERS. EQUIPMENT INCLUDES FLAME AND ABSORPTION SPECTROPHOTMETERS, CATHODIC PROTECTION MEASURING EQUIP., PORTABLE RADIGRAPHIC EQUIPMENT, ENVIRONMENTAL ROOM, SHEAR MEASURING EQUIPMENT, COMPACTORS, STABILITY AND VISCOSITY TESTERS, AND WATER/WASTE STANDARD METHODS EQUIPMENT. REMOTE TERMINAL ACCESS IS AVAILABLE TO A CDC 6600 SCIENTIFIC COMPUTER WITH OFF-LINE DRUM PLOTTING CAPABILITY. A FIRE TEST SITE HAS FULL DISTRIBUTION AND FUEL/WATER SEPARATION SYSTEMS. A RUNWAY REPAIR TEST SITE HAS A 200X600 FT TYPICAL RUNWAY SECTION. A HARDENED AIRCRAFT SHELTER SITE HAS 3 SHELTERS FROM 48 TO 82 FT WIDE.

INSTALLATION: EASTERN TEST RANGE

PATRICK AFB, FL

CDR. COL OSCAR W. PAYNE

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 1.216            | 0.000               |
| TOTAL PROCUREMENT     | 3.385            | 4.534               |
| TOTAL OEM             | 163.562          | 166.139             |
| TOTAL OTHER           | 18.229           | 20.388              |
| TOTAL ANNUAL LAB      | 186.392          | 191.061             |
| TOTAL INHOUSE         | 82.497           | 74.378              |
| TOTAL INHOUSE RDT&E   | 1.215            | 0.000               |
| ANNUAL OPERATING COST | 61.824           | 67.988              |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 1032                   | 1             | 108           | 924          |
| CIVILIAN  | 1562                   | 0             | 109           | 1453         |
| TOTAL     | 2594                   | 1             | 217           | 2377         |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |          |          | COST (MILLION \$) |           |         |
|-------|----------------------------------|----------|----------|-------------------|-----------|---------|
|       | LAB                              | ADMIN    | OTHER    | TOTAL             | REAL PROP | EQUIP   |
| 17220 | 110.933                          | 1125.084 | 4587.672 | 5823.689          | 386.791   | 421.902 |

...MISSION

SUPPORT OF LAUNCH PROGRAMS AND AIR/GROUND-LAUNCHED MISSILE SYSTEMS FROM CCAFS AND KSC, OPERATION OF THE ARIS IN SUPPORT OF JCS REQUIREMENTS, SUPPORT OF AEROSPACE DEFENSE COMMAND ON-ORBIT TRACKING REQUIREMENTS AND SUPPORT OF SPECIAL PROJECTS, DOCUMENTED R&D TESTS AND TENANT ACTIVITIES.

...CURRENT IMPORTANT PROGRAMS

FBM PROGRAMS - POLARIS, POSEIDON, TRIDENT AND CHEVALINE  
MIL SPACE SUPPORT PROGRAMS - TITAN IIIC AND ATLAS/AGENA  
MIL MISSILE SUPPORT PROGRAMS - SRAM/JTU, PERSHING AND SAM-D  
NASA - THOR/DELTA, ATLAS/CENTAUR AND TITAN/CENTAUR  
NASA - SPACE SHUTTLE PROGRAM

...FUNCTIONS/EQUIPMENT/CAPABILITIES

AFETR CAPABILITIES INCLUDE: ASSEMBLY, PRE-LAUNCH TESTING, AND LAUNCH PERFORMANCE EVALUATION OF BALLISTIC MISSILES, LAUNCH VEHICLES, SPACECRAFT AND SATELLITES TO INCLUDE TRACKING, LONG-DISTANCE COMMUNICATIONS, DATA TRANSMISSION, COLLECTION AND REDUCTION. EQUIPMENT AND FACILITIES INCLUDE MAINLAND AND DOWN-RANGE INSTRUMENTATION AND COMMUNICATIONS, INSTRUMENTED SHIPS, SCIENTIFIC DATA PROCESSING EQUIPMENT AND FACILITIES, PHOTO/ELECTRO-OPTICAL SYSTEMS AND SERVICES, MISSILE IMPACT LOCATION SYSTEMS, METEOROLOGICAL WEATHER STATIONS AND EQUIPMENT, AND RANGE TIMING SYSTEMS. THE AFETR OPERATES AND MAINTAINS CCAFS, PATRICK AFB, MAINLAND SITES AND DOWN-RANGE STATIONS. SUPPORT FUNCTIONS INCLUDE LAUNCH SUPPORT SERVICES AND GENERAL MANAGEMENT OF THE ETR, INCLUDING PLANT ENGINEERING, CONTRACTOR OPERATIONS, LABORATORY, MEDICAL, AND OTHER SPECIAL SERVICES.

## INSTALLATION: FLIGHT DYNAMICS LABORATORY

WPAFB, OH.

CDR COL A.E. PREYSS

CH. SCI. DR K.I. COLLIER

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976       |             | 1977 |
|-----------------------|------------|-------------|------|
|                       | (ACTUAL)   | (ACT + FST) |      |
| TOTAL RD&E            | 89.589     | 73.283      |      |
| TOTAL PROCUREMENT     | 0.000      | 0.000       |      |
| TOTAL C&M             | 0.321      | 0.321       |      |
| TOTAL OTHER           | 3.745      | 4.924       |      |
| TOTAL ANNUAL LAB      | 93.655     | 78.528      |      |
| <br>TOTAL INHOUSE     | <br>31.391 | <br>28.259  |      |
| TOTAL INHOUSE RD&E    | 27.931     | 24.627      |      |
| ANNUAL OPERATING COST | 5.232      | 5.500       |      |

## PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL |    | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|-------|----|---------------|--------------|
|           |                        | PHDS  | OF |               |              |
| MILITARY  | 199                    | 17    |    | 125           | 74           |
| CIVILIAN  | 854                    | 45    |    | 492           | 362          |
| TOTAL     | 1053                   | 62    |    | 617           | 436          |

## SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |         |         | COST (MILLION \$) |           |        |
|-------|----------------------------------|---------|---------|-------------------|-----------|--------|
|       | LAB                              | ADMIN   | OTHER   | TOTAL             | REAL PROP | EQUIP  |
| 90    | 497.000                          | 161.820 | 258.269 | 917.089           | 25.759    | 68.500 |

## ...MISSION

PLAN AND EXECUTE USAF RESEARCH EXPLORATORY AND ADVANCED DEV PROGRAMS FOR AEROSPACE FLT VEHICLE STRUCTURES AERODYNAMICS FLT CONTROL VEHICLE DYN AND VEHICLE EQUIP. LEAD AFSC LAB FOR EXPER FLT VEHICLES. AFSC FOCAL PT FOR NONNUCLEAR SURVIVABILITY PROG. EVALUATE CONTRACTOR I R AND D PROG.

## ...CURRENT IMPORTANT PROGRAMS

INTEGRATED FLIGHT/FIRE CONTROL

ADVANCED COMPOSITE STRUCTURES

ADVANCED FIGHTER TECHNOLOGY INTEGRATOR

COMBINED ENVIRONMENT RELIABILITY TEST

NATIONAL HYPERSONIC FLIGHT TEST FACILITY

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

50MW TEST FACILITY IS A 30 MIN CONTINUOUS FLOW ARC HEATED HYPERSONIC W/T HAVING A RE-ENTRY NOSE TIP (RENT) TEST LEG AND HYPERSONIC TEST LEG (HTL) STRUCTURES TEST FACILITY PERMITS STRUCTURAL TESTING OF FULL SCALE VEHICLES AND COMPONENTS WITH PROGRAM CONTROLLED SIMULATION OF FORCE AND THERMAL FLT ENVIRONMENTS. LANDING GEAR TEST FACILITY DYNAMICALLY SIMULATES LANDING GEAR COMPONENT PERFORMANCE CHARACTERISTICS THRU PROGRAMMED PARAMETERS OF LOADS VELOCITIES TEMP ETC. ENGINEERING FLT SIMULATION FAC CONTAINS FLT SIMULATORS AND COMPUTING EQUIP TO DEVELOP CONTROL DISPLAY CONCEPTS AND EVALUATE MANS PERFORMANCE ON SPECIFIC DISPLAY AND CONTROL SYSTEMS. BALLISTIC RANGES TEST VULNERABILITY OF AIRCRAFT SUBSYSTEMS BY SIMULATING THREAT FUEL STRUCTURAL AND AERODYNAMIC ENVIRONMENTS.

INSTALLATION: FLIGHT TEST CENTER

EDWARDS AFB, CA.

COR MG T.J. STAFFORD

TECH DIR DP F.N. STOLIKER

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 71.642                                   | 72.436              |
| TOTAL PROCUREMENT     | 0.002                                    | 0.000               |
| TOTAL DEM             | 1.451                                    | 1.396               |
| TOTAL OTHER           | 46.326                                   | 41.191              |
| TOTAL ANNUAL LAB      | 119.421                                  | 115.023             |
| <br>TOTAL INHOUSE     | 94.175                                   | 95.115              |
| TOTAL INHOUSE RDT&E   | 53.750                                   | 53.640              |
| ANNUAL OPERATING COST | 23.632                                   | 23.951              |

| PERSONNEL | PERSONNEL DATA (END OF FY 1976) |               | NON-<br>PROF |
|-----------|---------------------------------|---------------|--------------|
|           | AUTHORIZED<br>STRENGTH          | TOTAL<br>PHDS |              |
| MILITARY  | 3570                            | 1             | 189          |
| CIVILIAN  | 1507                            | 20            | 386          |
| TOTAL     | 5077                            | 21            | 575          |

| ACRES  | SPACE AND PROPERTY               |         |          | COST (MILLION \$) |         |                 |
|--------|----------------------------------|---------|----------|-------------------|---------|-----------------|
|        | SPACE (THOUSANDS OF SQUARE FEET) | LAB     | ADMIN    | OTHER             | TOTAL   | REAL PROP EQUIP |
| 246323 | 998.928                          | 258.405 | 6241.936 | 7499.269          | 227.608 | 82.880          |

...MISSION

PLANS, CONDUCTS/SUPPORTS AND REPORTS ON TESTS OF MANNED/UNMANNED AEROSPACE VEH INCL ALL-WEATHER TESTS. CONDUCTS FLT EVAL OF AEROSPACE RSCH VEH AND DEV TEST OF AERODYNAMIC DECELERATORS. OPR USAF TEST PILOT SCHOOL. SUPPORTS USAF, DOD, GOV, FOREIGN AND CONTRACTOR TEST AND EVALUATION

...CURRENT IMPORTANT PROGRAMS

F-15 DT AND E  
A-10 DT AND E  
B-1 DT AND E  
AMST FLY-OFF  
E-3A DT AND E

...FUNCTIONS/EQUIPMENT/CAPABILITIES

TECHNICAL FACILITIES AND EQUIPMENT ARE AVAILABLE TO PROVIDE A COMPLETE RANGE OF SERVICES FOR CONDUCTING DT AND E FLT TESTS OF AERONAUTICAL SYS AND TO ENHANCE R-2408 RANGE COMPLEX. TO CONDUCT FLT EVAL AND RECOVER RSCH VEH AND TO TRAIN TEST PILOTS, ENGINEERING FACILITIES, REALTIME INSTRUMENTED RANGS, DATA COLLECTION, REDUCTION AND ANALYSIS FACILITIES, PHOTO/TV, ACFT/ENGINE MAINT, TEST EQUIP, ELECTRONIC SHOPS AND A COMPLEX OF DRY LAKES FOR RECOVERY AND EMERGENCY LANDINGS PROVIDE SUPPORT FOR ALL PROGRAMS. OTHER FACILITIES ARE PRECISION IMPACT GUNNERY BOMBING, INFRARED PHOTO RESOLUTION, RADAR FIDELITY, TACTICAL AND OPTICAL RANGES, ENGINEERING SIMULATOR, MUNITIONS STORAGE AND CHECKOUT AND CONTRACTOR-ASSIGNED HANGARS, SHOPS, OFFICE SPACE, ETC.

INSTALLATION: FRANK J. SEILER RESEARCH LABORATORY

USAF ACADEMY, CO.

CDR. CCL. M.D. BACON

CH. SCI. LT.COL T.M. TOMASKOVIC

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976     | 1977        |
|-----------------------|----------|-------------|
|                       | (ACTUAL) | (ACT + EST) |
| TOTAL RDT&E           | 0.793    | 0.760       |
| TOTAL PROCUREMENT     | 0.000    | 0.000       |
| TOTAL OEM             | 0.000    | 0.000       |
| TOTAL OTHER           | 0.451    | 0.500       |
| TOTAL ANNUAL LAB      | 1.244    | 1.260       |
| <br>TOTAL INHOUSE     | 1.082    | 1.130       |
| TOTAL INHOUSE RDT&E   | 0.631    | 0.630       |
| ANNUAL OPERATING COST | 0.032    | 0.035       |

## PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL |      | TOTAL |           | NON-<br>PROF |
|-----------|------------------------|-------|------|-------|-----------|--------------|
|           |                        | PHDS  | PROF | TOTAL | REAL PROP |              |
| MILITARY  | 22                     | 17    | 19   | 19    | 19        | 3            |
| CIVILIAN  | 9                      | 1     | 4    | 4     | 4         | 5            |
| TOTAL     | 31                     | 18    | 23   | 23    | 23        | 8            |

## SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |       |       | COST (MILLION \$) |           |       |
|-------|----------------------------------|-------|-------|-------------------|-----------|-------|
|       | LAB                              | ADMIN | OTHER | TOTAL             | REAL PROP | EQUIP |
| 0     | 9.900                            | 2.800 | 0.240 | 12.940            | 0.000     | 1.865 |

## ...MISSION

CONDUCT RESEARCH IN AEROSPACE-MECHANICS, APPLIED MATHEMATICS & CHEMISTRY. ENCOURAGE & SUPPORT ACADEMY FACULTY & CADET RESEARCH BY DIRECT PARTICIPATION. MONITOR FACULTY CONSULTANT PROG, SUMMER RSCH PROG, FOCAL POINT FOR USAF ACADEMY RESEARCH PROPOSED TO DL RESEARCH & TECHNOLOGY LABS (AFSC).

## ...CURRENT IMPORTANT PROGRAMS

BATTERY RESEARCH & ELECTROCHEMISTRY OF MOLTEN SALTS, ENERGETIC MATERIALS RESEARCH, CHEMICAL MOLECULAR DYNAMICS OF LASERS AND PLUMES. MODELING, OPTIMIZATION, NONLINEAR CONTROL THEORY, ESTIMATION THEORY, MICROPROCESSOR RESEARCH IN ADAPTIVE OPTICS. FLUID MECHANICS, UNSTEADY AERODYNAMICS.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

MOLTEN SALT MELT STRUCTURE, CONDUCTIVITY & ELECTRODE REACTIONS. EXPLOSIVE & PROPELLANT SYNTH, DECOMPOSITION MECHANISMS & DETNATION PHENOMENA. GENERATION, MSMT, SPECTROSCOPY & MO CALC. OF EXCITED STATE SPECIES. IR, UV, NMR, EPR, X-RAY/EASS SPECTS, GAS & LIQUID CHROMATOGRAPHS, ELECTRON MICROSCOPE, SPECIAL SPECTROMETERS & CONDUCTIVITY EQUIP., ASSOC. FACILITIES FOR WET CHEMISTRY. ADVANCED ANALYSIS & EVALUATION TECHNIQUES FOR INERTIAL GUIDANCE SENSORS USING 2-AXIS TEST TABLE (GYRO), AUTOMATIC AZIMUTH ALIGNMENT EQUIPMENT & ELECTRONIC CONTROL EQUIP. FOR 50 SERIES INERTIAL DEVICES LOCATED IN A CLASS 1000 CLEAN LAB ON 80 TON AIR SUPPORTED STAPLE PLATFORM. PDP 11/45 MINICOMPUTER & SOFTWARE TO AUTOMATE GYRO RESEARCH. AERODYNAMIC RESEARCH IN USAFA SUPERSONIC AND TRISONIC WIND TUNNELS. HOLOGRAPHIC & OTHER OPTICAL FLOW VISUALIZATION INSTRUMENTATION.

## INSTALLATION: GEOPHYSICS LABORATORY

HANSOM AFB, MS.

CUR COL BERNARD S. MORGAN JR

CH. SCI. DR JOHN N. HOWARD

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + FST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 55.831           | 46.388              |
| TOTAL PROCUREMENT     | 0.028            | 0.000               |
| TOTAL OEM             | 0.001            | 0.001               |
| TOTAL OTHER           | 5.207            | 3.250               |
| TOTAL ANNUAL LAB      | 61.067           | 49.639              |
| <br>TOTAL INHOUSE     | 23.317           | 26.789              |
| TOTAL INHOUSE RDT&E   | 21.024           | 23.788              |
| ANNUAL OPERATING COST | 9.000            | 6.000               |

## PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 120                    | 12            | 36            | 84           |
| CIVILIAN  | 509                    | 77            | 328           | 181          |
| TOTAL     | 629                    | 89            | 364           | 265          |

| ACRES | SPACE AND PROPERTY               |        |        | COST (MILLION \$) |        |                 |
|-------|----------------------------------|--------|--------|-------------------|--------|-----------------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN  | OTHER             | TOTAL  | REAL PROP EQUIP |
| 269   | 422.418                          | 14.813 | 31.383 | 468.614           | 10.199 | 38.526          |

## ...MISSION

CONDUCTS AND SUPPORTS AF RELEVANT RESEARCH AND EXPLORATORY DEVELOPMENT IN ENVIRONMENTAL AND PHYSICAL SCIENCES WITH MAJOR EMPHASIS IN GEOPHYSICS. ALSO CONDUCTS AND SUPPORTS SPECIFICALLY ASSIGNED ADVANCED DEVELOPMENT EFFORTS.

## ...CURRENT IMPORTANT PROGRAMS

SPACECRAFT CHARGING TECHNOLOGY  
SURFACE WEATHER OBSERVING AUTOMATION  
STRATOSPHERIC ENVIRONMENTAL IMPACT ASSESSMENTS  
OPTICAL, INFRARED AND UV BACKGROUNDS FOR SURVEILLANCE SYSTEMS  
GEODETIC AND GEOKINETIC EFFECTS ON MISSILE CEP

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

CONDUCTS RESEARCH AND TECHNICAL DEVELOPMENT IN TERRESTRIAL, AEROSPACE, OPTICAL AND SOLAR PHYSICS AND IN EM WAVE PROPAGATION RELATING TO AIR FORCE NEEDS. EQUIPMENT AND FACILITIES INCLUDE RADIO TELESCOPES FOR SOLAR RESEARCH; TWO C-130 AIRCRAFT FOR METEOROLOGICAL RESEARCH; ROCKET AND BALLOON LAUNCH FACILITIES; TWO KC-135 AND ONE C-130 AIRCRAFT FOR OPTICAL, UPPER ATMOSPHERIC AND NEAR EARTH SPACE STUDIES; AND A CDC 6600 COMPUTER SYSTEM.

INSTALLATION: HUMAN RESOURCES LABORATORY

BROOKS AFB, TX.

CDR COL. DAN D FULGHAM

VCDR COL. KENNETH E STOUT

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 13.242           | 19.163              |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL OEM             | 0.000            | 0.000               |
| TOTAL OTHER           | 1.752            | 1.839               |
| TOTAL ANNUAL LAB      | 14.994           | 21.002              |
| TOTAL INHOUSE         | 7.311            | 8.167               |
| TOTAL INHOUSE RDT&E   | 5.559            | 6.328               |
| ANNUAL OPERATING COST | 1.060            | 1.166               |

## PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 125                    | 14            | 65            | 60           |
| CIVILIAN  | 230                    | 41            | 109           | 121          |
| TOTAL     | 355                    | 55            | 174           | 181          |

| ACRES | SPACE AND PROPERTY               |        |        | COST (MILLION \$) |       |           |
|-------|----------------------------------|--------|--------|-------------------|-------|-----------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN  | OTHER             | TOTAL | REAL PROP |
| 13    | 69.511                           | 35.654 | 36.582 | 141.747           | 2.771 | 27.903    |

## ...MISSION

PRINCIPAL AFSC ORGANIZATION CHARGED WITH PLANNING AND EXECUTING EXPLORATORY AND ADVANCED DEVELOPMENT PROGRAMS FOR SELECTION, MOTIVATION, TRNG, RETENTION, EDUCATION, UTILIZATION AND CAREER DEVELOPMENT OF AF MILITARY PERSONNEL; COMPOSITION OF PERSONNEL FORCE; AND TRNG EQUIPMENT.

## ...CURRENT IMPORTANT PROGRAMS

ADVANCED DEVELOPMENT IN THE USE OF SIMULATION FOR UNDERGRADUATE PILOT AND AEROSPACE CREW TRNG. IMPROVED PERSONNEL SELECTION, CLASSIFICATION, EVALUATION AND UTILIZATION TECHNIQUES. HUMAN FACTORS IN DESIGN OF TRNG SYSTEMS. DESCRIBING, EVALUATING AND STRUCTURING AF OCCUPATIONS. IMPROVED TECHNICAL TRNG THROUGH ADVANCED INSTRUCTIONAL SYSTEMS.

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

OCCUPATIONAL ANALYSIS; PERSONNEL PROCUREMENT, CLASSIFICATION, RETENTION AND SEPARATION; COMPUTER SIMULATION MODELS FOR PERSONNEL SYSTEMS; MAN-POWER RQMTS OF AF WEAPONS SYS; TRNG TECHNIQUES; DESIGN OF SIMULATORS AND OTHER TRNG DEVICES; CONDUCT TRNG RESEARCH ASSOCIATED WITH PILOT TRNG USING SOPHISTICATED HIGH-FIDELITY A/C SIMULATORS; ADVANCED INSTRUCTIONAL SYS FOR INDIVIDUALLY PACED COMPUTER AIDED TECH INSTRUCTION; ADVANCED SIMULATOR FOR UPT; ADVANCED INSTRUCTIONAL SYSTEM; SIMULATION AND TRAINING ADVANCED RESEARCH SYSTEM; SIMULATION FOR MAINTENANCE TRAINING. TECHNICAL LIBRARY, PERSONNEL TESTING ROOMS; COMPUTER, UNIVAC 1108 ELECTRONIC DATA PROCESSING SYSTEM WITH 2 CPUs, 12 TAPE DRIVES, 16 UNISCOPE INTERACTIVE TERMINALS, GRAPHICS DISPLAY CONSOLE, 2 PRINTERS, CARD READER, CARD PUNCH. ELEC ASSOC TR 48 ANALOG COMPUTER.

INSTALLATION: MATERIALS LABORATORY

WPAFB, OH.

DIR MR. G.P. PETERSON

CDR COL L.D. WHIPPLE

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 41.921                                   | 45.938              |
| TOTAL PROCUREMENT     | 22.897                                   | 32.595              |
| TOTAL OEM             | 0.000                                    | 0.000               |
| TOTAL OTHER           | 1.434                                    | 1.506               |
| TOTAL ANNUAL LAB      | 66.252                                   | 80.039              |
| TOTAL INHOUSE         | 16.072                                   | 16.794              |
| TOTAL INHOUSE RDT&E   | 14.638                                   | 15.288              |
| ANNUAL OPERATING COST | 3.669                                    | 3.808               |

| PERSONNEL | AUTHORIZED<br>STRENGTH | PERSONNEL DATA (END OF FY 1976) |               | NON-<br>PROF |
|-----------|------------------------|---------------------------------|---------------|--------------|
|           |                        | TOTAL<br>PHDS                   | TOTAL<br>PROF |              |
| MILITARY  | 53                     | 13                              | 67            | 14           |
| CIVILIAN  | 345                    | 45                              | 243           | 102          |
| TOTAL     | 398                    | 58                              | 310           | 116          |

| ACRES | SPACE AND PROPERTY               |        |         | COST (MILLION \$) |        |                 |
|-------|----------------------------------|--------|---------|-------------------|--------|-----------------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN   | OTHER             | TOTAL  | REAL PROP EQUIP |
| 15    | 222.809                          | 25.169 | 111.156 | 359.134           | 18.851 | 14.200          |

...MISSION

PLAN/EXECUTE EXPLORATORY AND ADVANCED DEVELOPMENT, AND ASSIGNED BASIC RSCH. PROGS. FOR MATERIALS. PROVIDE TECH./MANAGEMENT ASSISTANCE FOR STUDIES, ANALYSES, DEVELOPMENT PLANNING, ACQUISITION, TEST, EVALUATION MOD. AND DPN. OF AEROSPACE SYSTEMS. MANAGE/DIRECT A.F. DIRECT MFG. PROG.

...CURRENT IMPORTANT PROGRAMS

ADVANCED DEVEL. PROG., COMPOSITES, METALS, AND LASER HARDENING

MANUFACTURING TECHNOLOGY COST REDUCTION PROGRAM

THERMAL PROTECTION MATERIALS FOR REENTRY VEHICLES

PROPULSION MATERIALS

SYSTEMS SUPPORT

...FUNCTIONS/EQUIPMENT/CAPABILITIES

MATERIALS RESEARCH AND DEVELOPMENT FACILITIES AND CAPABILITIES FOR: AEROSPACE STRUCTURES, TPS FOR BALLISTIC RV, AND ENGINES, FLUIDS, LUBRICANTS, FLUID CONTAINMENT PROPULSION, COATINGS, FIBERS, EM WINDOWS, SENSORS, DISPLAYS, LASER WINDOWS, AND OPT DEVICES, ELECT COMPONENTS, NON-DESTRUCT. TESTING, POLYMERS, ADHESIVES, NONMETALLIC MATRIX COMPOSITES, ELASTOMERS, METALS, ALLOYS, METAL COMPOSITES, METAL PROCESSING, INTERMETALLICS, CERAMICS, STATIC AND DYNAMIC BEHAVIOR, JOINING, GRAPHITE, ELECTRONIC, PHYSICAL, CHEMICAL ANALYSIS. OTHER MAJOR MATERIALS FUNCTIONS: MANUFACTURING TECHNOLOGY, SYSTEMS APPLICATION, SYSTEMS SUPPORT, THERMAL PROTECTION MATERIALS.

INSTALLATION: ROCKET PROPULSION LABORATORY

EDWARDS AFB, CA.

CDR. COL. EARL B. ESSING

CH. SCI. DR. RICHARD W. WEISS

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 29.093           | 33.731              |
| TOTAL PROCUREMENT     | 1.500            | 0.458               |
| TOTAL C&M             | 0.007            | 0.000               |
| TOTAL OTHER           | 2.714            | 2.977               |
| TOTAL ANNUAL LAB      | 33.314           | 37.166              |
| TOTAL INHOUSE         | 13.947           | 14.257              |
| TOTAL INHOUSE RDT&E   | 11.631           | 11.702              |
| ANNUAL OPERATING COST | 0.325            | 0.350               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 177                    | 6             | 77            | 100          |
| CIVILIAN  | 264                    | 10            | 93            | 171          |
| TOTAL     | 441                    | 16            | 170           | 271          |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |        |       | COST (MILLION \$) |           |        |
|-------|----------------------------------|--------|-------|-------------------|-----------|--------|
|       | LAB                              | ADMIN  | OTHER | TOTAL             | REAL PROP | EQUIP  |
| 72560 | 419.046                          | 86.848 | 4.780 | 510.674           | 125.000   | 44.600 |

...MISSION

CONDUCT THE AIR FORCE'S ROCKET PROPULSION EXPLORATORY AND ADV DEVEL. PROGRAMS TO PROVIDE ADV TECH FOR FUTURE ICBM'S, STRATEGIC AND TACTICAL AIR LAUNCHED MISSILES, SPACE VEHICLES, AND SATELLITES. PROVIDES ROCKET PROPULSION TECHNOLOGICAL SUPPORT TO DOD AND NON-DOD AGENCIES.

...CURRENT IMPORTANT PROGRAMS

PROVIDE PROPULSION OPTIONS FOR MX FULL SCALE DEVEL. PROVISE SOLID ROCKET SIGNATURE, PERFORMANCE, AND ENERGY MGT OPTIONS FOR AIR LAUNCHED MISSILES. DEMO 30 TO 50 PERCENT REDUCTION IN ACQUISITION COST OF HIGH PRODUCTION RATE SOLID ROCKETS. DEMONSTRATE AN IMPROVED PERFORMANCE KICK MOTOR FOR SPACE APPL. DEMO LONG LIFE MONOPROPellant SATELLITE THRUSTERS.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

A CHEM LAB FOR SYNTHESIS, ANALYSIS AND FORMULATION OF NEW PROPELLANTS. FACILITIES FOR MIXING, CASTING, CURING AND TESTING SOLID ROCKET MOTORS. A SOLID MOTOR TEST AND EVAL COMPLEX FOR INVESTIGATION OF COMBUSTION, AGING, STRUCTURAL INTEGRITY, BALLISTIC PERFORMANCE AND HIGH TEMPERATURE COMPONENTS. LAB FOR TESTING SMALL ATTITUDE CONTROL AND SATELLITE PROPULSION SYSTEMS AND COMPONENTS UNDER SIMULATED SPACE ENVIRONMENTS. ALTITUDE TESTING OF LIQUID AND SOLID ROCKETS UP TO 50,000 POUNDS THRUST. AMBIENT TESTING OF LIQUID OR SOLID ROCKETS UP TO 500,000 POUNDS THRUST. IN-HOUSE ANALYTICAL CAPABILITY FOR DESIGN, ANALYSIS, AND TEST DATA REDUCTION, SHOPS FOR FABRICATING TEST HARDWARE AND TEST SYSTEMS. A FULL SCALE REENTRY NOSETIP TEST FACILITY.

INSTALLATION: ROME AIR DEVELOPMENT CENTER

GRIFFISS AFB, N.Y.

CDR COL JOHN Z. DILLON

CH. SCI. DR JOHN S. BURGESS

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 57.674           | 69.100              |
| TOTAL PROCUREMENT     | 40.803           | 40.000              |
| TOTAL OEM             | 11.105           | 12.000              |
| TOTAL OTHER           | 54.908           | 55.500              |
| TOTAL ANNUAL LAB      | 164.490          | 176.600             |
| TOTAL INHOUSE         | 20.200           | 21.499              |
| TOTAL INHOUSE RDT&E   | 15.124           | 16.249              |
| ANNUAL OPERATING COST | 12.203           | 13.000              |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 237                    | 12            | 102           | 135          |
| CIVILIAN  | 1203                   | 60            | 630           | 573          |
| TOTAL     | 1440                   | 72            | 732           | 708          |

SPACE AND PROPERTY

| ACRES | SPACE (THOUSANDS OF SQUARE FEET) |        |         | COST (MILLION \$) |        |            |
|-------|----------------------------------|--------|---------|-------------------|--------|------------|
|       | LAR                              | ADMIN  | OTHER   | TOTAL             | REAL   | PROP EQUIP |
| 1494  | 802.827                          | 83.496 | 128.713 | 1015.036          | 24.873 | 54.553     |

...MISSION

CONDUCTS A FULL SPECTRUM RESEARCH, EXPLORATORY AND ADVANCED DEVELOPMENT PROGRAM IN THE UNIQUE AREA OF INTELLIGENCE DATA EXPLOITATION AND HANDLING, MAPPING AND CHARTING, INCLUDING SELECTIVELY ASSIGNED ENGINEERING DEVELOPMENT AND SYSTEM ACQUISITION PROGRAMS.

...CURRENT IMPORTANT PROGRAMS

ELECTROMAGNETIC RELIABILITY AND COMPATIBILITY ANALYSIS  
ARRAY RADAR AND ECCM DEVELOPMENTS  
PHOTOGRAMMETRIC TARGETING SYSTEM  
MULTILATERATION RADAR SURVEILLANCE/STRIKE SYSTEM  
RADIATION HARDENED MICROCIRCUITS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

RADC PLANS AND CONDUCTS RESEARCH, EXPLORATORY AND ADVANCED DEVELOPMENT PROGRAMS IN COMMAND, CONTROL, AND COMMUNICATIONS (CUBED 3) ACTIVITIES, AND IN THE C-CUBED AREAS OF INFORMATION SCIENCES AND INTELLIGENCE. THE PRINCIPAL TECHNICAL MISSION AREAS ARE COMMUNICATIONS, ELECTROMAGNETIC GUIDANCE AND CONTROL, SURVEILLANCE OF GROUND AND AEROSPACE OBJECTS, INTELLIGENCE DATA COLLECTION AND HANDLING, INFORMATION SYSTEM TECHNOLOGY, IONOSPHERIC PROPAGATION, SOLID STATE SCIENCES, MICROWAVE PHYSICS AND ELECTRONIC RELIABILITY, MAINTAINABILITY AND COMPATIBILITY.

INSTALLATION: SCHOOL OF AEROSPACE MEDICINE

BROOKS AFB, TX.

CDR. COL. R.F. MCIVER

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1976<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL RDT&E           | 10.185                                   | 11.376              |
| TOTAL PROCUREMENT     | 0.120                                    | 0.078               |
| TOTAL D&M             | 2.089                                    | 2.154               |
| TOTAL OTHER           | 8.180                                    | 8.250               |
| TOTAL ANNUAL LAB      | 20.574                                   | 21.858              |
| TOTAL INHOUSE         | 19.033                                   | 19.256              |
| TOTAL INHOUSE RDT&E   | 8.715                                    | 8.822               |
| ANNUAL OPERATING COST | 1.920                                    | 2.000               |

| PERSONNEL | AUTHORIZED<br>STRENGTH | PERSONNEL DATA (END OF FY 1976) |               | NON-<br>PROF |
|-----------|------------------------|---------------------------------|---------------|--------------|
|           |                        | TOTAL<br>PHDS                   | TOTAL<br>PROF |              |
| MILITARY  | 392                    | 57                              | 84            | 308          |
| CIVILIAN  | 285                    | 33                              | 110           | 175          |
| TOTAL     | 677                    | 90                              | 194           | 483          |

| ACRES | SPACE AND PROPERTY               |        |        | COST (MILLION \$) |        |                 |
|-------|----------------------------------|--------|--------|-------------------|--------|-----------------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN  | OTHER             | TOTAL  | REAL PROP EQUIP |
| 74    | 360.655                          | 77.980 | 48.737 | 487.372           | 13.143 | 22.343          |

...MISSION

CONDUCT EXPLORATORY RESEARCH AND DEVELOPMENT PROGRAMS IN AEROSPACE BIOTECHNOLOGY. INCLUDES LIFE SUPPORT, AEROSP MEDICINE, RADIobiOLOGY, AND OTHER BIOMEDICAL PROGRAMS. PROVIDE MEDICAL EVALUATION AND CONSULTATION FOR FLYING PERSONNEL WITH MEDICAL PROBLEMS AFFECTING FLYING STATUS

...CURRENT IMPORTANT PROGRAMS

MEDICAL ASPECTS OF AEROSPACE OPERATIONS

CREW RESPONSE TO ACCELERATION AND MISSION DURATION IN USAF SYSTEMS

MAN-ATMOSPHERE ENVIRONMENT INTERACTION IN USAF SYSTEMS

RADIobiOLOGY IN AEROSPACE OPERATIONS

EXPLORATORY DEVELOPMENT OF MEDICAL EQUIPMENT AND SYSTEMS

...FUNCTIONS/EQUIPMENT/CAPABILITIES

USAF SCHOOL OF AEROSPACE MEDICINE RESEARCH IN AEROSPACE MED PROBLEMS. ENVIRONMENTAL STRESS, DEVELOPMENTAL ENGINEERING, RADIobiOLOGY, LASER HAZARDS, BIOMETRICS, BIOMEDICAL ENGINEERING AND EPIDEMIOLOGY FACILITIES. WHOLE BODY COUNTER, HUMAN CENTRIFUGE, VARIOUS TEST CELLS AND RESEARCH CHAMBERS, NEUTRON GENERATOR, ROTATIONAL FLIGHT SIMULATOR, KILO-CURIE-COBALT 60 RADIATION SOURCE, AEROSPACE MEDICAL SCIENCE LAB, AEROSPACE MEDICAL CONSULTATIVE SERVICES, AEROMEDICAL EVALUATION, CLINICAL SCIENCE, OCULOTHERMAL, RESEARCH OPTICAL, AUDIOLoGY, VESTIBULAR, PSYCHobiOLOGY, RADIoISOTOPE, AEROMEDICAL STANDARDS, AND LASER HAZARDS FACILITIES. ZEISS PHOTO-COAGULATOR, VECTORCARDIOGRAPH MACHINE, BALLISTOCARDIOGRAPH MACHINE, PHONO CARDIOGRAPH MACHINE, MASS SPECTROMETERS, AUTOSCAN ELECTRON MICROSCOPE SYSTEM, AND REMOTE INTERACTIVE GRAPHIC TERMINALS SYSTEM

INSTALLATION: SPACE AND MISSLE TEST CENTER

VANDENBURG AFB, CA.

COR BG DON HARTUNG

ATG TECH DIR MR. EUGENE E. CLARY

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 48.209           | 50.828              |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL OEM             | 0.000            | 0.000               |
| TOTAL OTHER           | 12.720           | 13.373              |
| TOTAL ANNUAL LAB      | 60.929           | 64.201              |
| TOTAL INHOUSE         | 16.705           | 17.271              |
| TOTAL INHOUSE RDT&E   | 9.798            | 10.329              |
| ANNUAL OPERATING COST | 0.327            | 0.416               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 397                    | 3             | 162           | 235          |
| CIVILIAN  | 327                    | 0             | 113           | 214          |
| TOTAL     | 724                    | 3             | 275           | 449          |

| ACRES | SPACE AND PROPERTY               |         |         | COST (MILLION \$) |        |           |
|-------|----------------------------------|---------|---------|-------------------|--------|-----------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB     | ADMIN   | OTHER             | TOTAL  | REAL PROP |
| 55567 | 91.407                           | 334.384 | 431.954 | 857.745           | 94.520 | 76.616    |

...MISSION

MANAGE SPACE, MISSILE, AND AERONAUTICAL TEST OPERATIONS. DEVELOP, MANAGE, AND OPERATE SAMTEC AS A NATIONAL RANGE IN SUPPORT OF DOD AND NON-DOD PROGRAMS.

...CURRENT IMPORTANT PROGRAMS

MINUTEMAN II AND III OPERATIONAL TESTING

AERONAUTICAL PROGRAMS INCLUDING BOMARC, B-1, CRUISE MISSILE, AND F-14/15 ABRES PROGRAMS

CLASS AND UNCLASS SPACE LAUNCHES USING ATLAS, THOR, TITAN, AND SCOUT

MINUTEMAN III R AND D

...FUNCTIONS/EQUIPMENT/CAPABILITIES

SAMTEC CAPABILITIES INCLUDE TEST LAUNCH AND RANGE SUPPORT. TEST LAUNCH INCLUDES - ASSEMBLY AND PRELAUNCH TESTING OF LAUNCH VEHICLE SYSTEMS USING THOR, ATLAS, SCOUT, H/M AND TITAN BOOSTERS - AGENA AND TITAN III UPPER STAGES - PAYLOAD AND VEHICLE INTEGRATION AND CHECKOUT - AND LAUNCH CONTROL. RANGE SUPPORT INCLUDES NEAR AND FAR TERM RANGE INSTRUMENTATION PLANNING, DATA GATHERING ON BALLISTIC/ORBITAL/PROBE LAUNCHES, AERONAUTICAL SYSTEMS, AND OTHER TESTS. VARIOUS FIXED AND MOBILE TELEMETRY SYSTEMS, TRACKING RADARS, AND OPTICS SYSTEMS ARE AVAILABLE. LAUNCH AZIMUTHS VARY FROM 165 TO 310 DEGREES. IMPACT SCORING OF BALLISTIC PAYLOADS IS AVAILABLE AT ISLAND SITES. AERONAUTICAL FLIGHTS ARE CONDUCTED IN A WELL INSTRUMENTED OFFSHORE TEST AREA. LAUNCH FACILITIES AND RANGE INSTRUMENTATION CAN BE RECONFIGURED TO MEET PROGRAM REQUIREMENTS.

## INSTALLATION: WEAPONS LABORATORY

KIRTLAND AFB, N.M.

CDR. COL. G.J. FREYER

CH. SCI. DR. A.H. GUNTHER

## PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 99.643           | 133.257             |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL OEM             | 0.371            | 0.400               |
| TOTAL OTHER           | 12.443           | 12.900              |
| TOTAL ANNUAL LAB      | 112.457          | 146.557             |
| <br>TOTAL INHOUSE     | 30.312           | 37.341              |
| TOTAL INHOUSE RDT&E   | 17.707           | 24.291              |
| ANNUAL OPERATING COST | 1.381            | 1.910               |

## PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRENGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|------------------------|---------------|---------------|--------------|
| MILITARY  | 692                    | 75            | 422           | 250          |
| CIVILIAN  | 456                    | 31            | 219           | 240          |
| TOTAL     | 1141                   | 106           | 641           | 500          |

| ACRES | SPACE AND PROPERTY               |         |         | COST (MILLION \$) |        |           |
|-------|----------------------------------|---------|---------|-------------------|--------|-----------|
|       | SPACE (THOUSANDS OF SQUARE FEET) | LAB     | ADMIN   | OTHER             | TOTAL  | REAL PROP |
| 702   | 531.810                          | 123.071 | 125.495 | 780.376           | 18.785 | 40.443    |

## ...MISSION

RESPONSIBLE FOR EXPLORATORY, ADVANCED, AND ENGINEERING DEVELOPMENT PROGRAMS IN NUCLEAR WEAPON EFFECTS, COMPONENTS, ADVANCED WEAPON TECHNOLOGY, LASER SYSTEMS, RADIATION HAZARDS, AND NUC SURVIVABILITY/ VULNERABILITY. DEVELOP SYS NUC HARDNESS CRITERIA, ASSES SYS, NUC SAFETY

## ...CURRENT IMPORTANT PROGRAMS

ADVANCED RADIATION TECHNOLOGY

ADVANCED WEAPON TECHNOLOGY

NUCLEAR SURVIVABILITY/VULNERABILITY ANALYSIS AND TESTING

NUCLEAR SAFETY ANALYSIS AND DESIGN CRITERIA

NUCLEAR WEAPONS EFFECTS ANALYSIS AND TESTING

## ...FUNCTIONS/EQUIPMENT/CAPABILITIES

NUCLEAR WEAPONS EFFECTS SIMULATION, SAFETY, COMPONENT ASSESSMENT AND ANALYSIS OF WEAPONS SYSTEMS NUCLEAR HARDNESS ARE CONDUCTED IN ENGINEERING TEST LABORATORIES AND PHYSICS LABORATORIES. SIMULATION TESTS ON MISSILES, AIRCRAFT, AND COMPONENTS USE ELECTROMAGNETIC PULSE SIMULATORS, GAS GUNS, AND X-RAY DEVICES. CIVIL ENGINEERING PROGRAMS USE SHOCK TUBES AND HIGH EXPLOSIVES FOR SIMULATION OF NUCLEAR BLAST AND SHOCK. LASER SYSTEMS DEVELOPMENT USES LASER/OPTICS LABORATORIES AND TEST RANGES WITH LARGE, HIGH POWER DEVICES. A TECHNICAL LIBRARY, METALLURGY-AND METROLOGY LABORATORIES, A CDC-7600 AND TWO CDC-6600 COMPUTERS WITH REMOTE ACCESS TERMINALS AND MULTI-CHANNEL SENSING/ RECORDING AND DATA REDUCTION SUPPORT ALL REQUIRING RDT/E PROGRAMS.

INSTALLATION: 6570 AEROSPACE MEDICAL RESEARCH LABORATORY WPAFB, OH  
CDR, COL ROY L. DEHART

| PROGRAM               | PROGRAM DATA BY FISCAL YEAR (MILLION \$) |                     |
|-----------------------|--|---------------------|
|                       | 1975<br>(ACTUAL)                         | 1977<br>(ACT + EST) |
| TOTAL ROTGE           | 12.712                                   | 13.081              |
| TOTAL PROCUREMENT     | 0.000                                    | 0.000               |
| TOTAL OEM             | 0.000                                    | 0.000               |
| TOTAL OTHER           | 3.350                                    | 3.420               |
| TOTAL ANNUAL LAB      | 16.062                                   | 16.501              |
| <br>TOTAL INHOUSE     | 8.186                                    | 8.473               |
| TOTAL INHOUSE ROTGE   | 4.836                                    | 5.053               |
| ANNUAL OPERATING COST | 0.650                                    | 0.700               |

| PERSONNEL | PERSONNEL DATA (END OF FY 1976) |               | TOTAL<br>PROF | NON-<br>PROF |
|-----------|---------------------------------|---------------|---------------|--------------|
|           | AUTHORIZED<br>STRENGTH          | TOTAL<br>PHDS |               |              |
| MILITARY  | 133                             | 22            | 60            | 73           |
| CIVILIAN  | 158                             | 28            | 97            | 61           |
| TOTAL     | 291                             | 50            | 157           | 134          |

| ACRES | SPACE AND PROPERTY                 |        |        | COST (MILLION \$) |        |           |
|-------|------------------------------------|--------|--------|-------------------|--------|-----------|
|       | SP. SQ. (THOUSANDS OF SQUARE FEET) | LAB    | ADMIN  | OTHER             | TOTAL  | REAL PROP |
| 30    | 223.459                            | 10.000 | 16.980 | 250.339           | 12.012 | 17.376    |

#### ...MISSION

ACCOMPLISH BEHAVIORAL AND BIOMEDICAL RESEARCH AND DEVELOPMENT TO DEFINE HUMAN TOLERANCE AND DEGRADATION OF HUMAN PERFORMANCE UNDER THE CONDITION OF ENVIRONMENTAL STRESS ASSOCIATED WITH AEROSPACE OPERATIONS AND PROVIDE SUPPORT TO SYSTEM DEVELOPMENT IN THE ABOVE AREAS.

#### ...CURRENT IMPORTANT PROGRAMS

DEFINE TOXIC HAZARDS ENVIR POLLUTION EFF OF MISSILE OPS-PROPELLANT TEST.  
DEFINE EFFECT OF CREW PERF ON MANNED WEAPON SYSTEM EFFECTIVENESS.  
DEV OPTICAL COUNTERMEASURE MECHANISMS FOR ADV DEV PROGRAM APPLICATIONS.  
EFF OF OPERATIONAL NOISE AND VIBRATION ENVIRONMENTS ON AF PERSONNEL-OPS.  
INV OF COMBINED STRESSES AND THEIR IMPACT ON HUMAN OPERATOR PERF METRICS

#### ...FUNCTIONS/EQUIPMENT/CAPABILITIES

HUMAN DECELERATION SYSTEM TO SIMULATE THE COMPLEX ACCELERATION ENVIRON ASSOCIATED WITH EJECTION AND CRASH LANDING.DYNAMIC ENVIRONMENT SIMULATOR -A SIX DEGR. OF FREEDOM MAN-RATED CENTRIFUGAL USED TO SIMULATE SUSTAINED ACCELERATIONS SUCH AS THOSE ENCOUNTERED IN AIR COMBAT MANEUVERING.THOMAS DOMES-EIGHT ALTITUDE EXPOSURE CHAMBERS TO SIMULATE EXOTIC ARTIFICIAL ATMOSPHERIC CONDITIONS.HUMAN ENGINEERING SYSTEMS SIMULATOR FACILITY USED TO PERFORM REAL-TIME MAN-IN-THE-LOOP EXPERIMENTS AND DATA ANALYSIS.  
ANECHOIC AND REVIBRATION CHAMBERS TO ENABLE EXPERIMENTAL INVESTIGATIONS OF POTENTIALLY HAZARDOUS NOISE TO DETERMINE EFFECTS ON BODY FUNCTION AND PERFORMANCE.VIVARIUM-LABORATORY RESEARCH ANIMAL FACILITY.  
AEROSPACE SYSTEM OPS. VIVARIUM-LABORATORY RESEARCH ANIMAL FACILITY.

DEPARTMENT OF DEFENSE

INSTALLATION: ARMED FORCES RADIOPHYSICS RESEARCH INSTITUTE BETHESDA, MD

CDR. COL LA WAYNE R. STROMBERG

PROGRAM DATA BY FISCAL YEAR (MILLION \$)

| PROGRAM               | 1976<br>(ACTUAL) | 1977<br>(ACT + EST) |
|-----------------------|------------------|---------------------|
| TOTAL RDT&E           | 4.332            | 5.100               |
| TOTAL PROCUREMENT     | 0.000            | 0.000               |
| TOTAL OEM             | 0.000            | 0.000               |
| TOTAL OTHER           | 1.466            | 1.763               |
| TOTAL ANNUAL LAB      | 5.798            | 6.863               |
| TOTAL INHOUSE         | 5.798            | 6.863               |
| TOTAL INHOUSE RDT&E   | 4.332            | 5.100               |
| ANNUAL OPERATING COST | 1.320            | 1.330               |

PERSONNEL DATA (END OF FY 1976)

| PERSONNEL | AUTHORIZED<br>STRNGTH | TOTAL<br>PHDS | TOTAL<br>PROF | NON-<br>PROF |
|-----------|-----------------------|---------------|---------------|--------------|
| MILITARY  | 87                    | 18            | 53            | 34           |
| CIVILIAN  | 137                   | 18            | 55            | 82           |
| TOTAL     | 224                   | 36            | 108           | 116          |

| ACRES | SPACE AND PROPERTY               |        |        | COST (MILLION \$) |           |       |
|-------|----------------------------------|--------|--------|-------------------|-----------|-------|
|       | SPACE (THOUSANDS OF SQUARE FEET) |        |        | TOTAL             | REAL PROP | EQUIP |
|       | LAB                              | ADMIN  | OTHER  |                   |           |       |
| 10    | 42.335                           | 21.049 | 42.339 | 105.723           | 7.910     | 3.879 |

...MISSION

THE MISSION OF AFRII SHALL BE TO CONDUCT SCIENTIFIC RESEARCH IN THE FIELD OF RADIOPHYSICS AND RELATED MATTERS THAT ARE ESSENTIAL TO THE MEDICAL SUPPORT OF THE DEPARTMENT OF DEFENSE

...CURRENT IMPORTANT PROGRAMS

EFFECTS OF IONIZING RADIATION ON BEHAVIOR  
ACUTE AND CHRONIC EFFECTS OF NON-IONIZING ELECTROMAGNETIC RADIATION  
DEVELOP-TEST-EVALUATE RADICOPHARMACEUTICALS TO DIAGNOSE AND TREAT DISEASE  
PROCESS. DETERMINE NEUROLOGIC AND BIOCHEMICAL CHANGES ASSOCIATED WITH  
RADIATION-IMPACT INJURY. STIMULATION OF MARROW RECOVERY POSTIRRADIATION.

...FUNCTIONS/EQUIPMENT/CAPABILITIES

FUNCTIONS: OPERATE FACILITIES FOR CONDUCTING RADIOPHYSICS RESEARCH AND DISSEMINATING RESULTS: CONDUCT ADVANCED TRAINING: OPERATE FACILITIES FOR PRODUCTION OF SHORT-LIVED RADIO ISOTOPES: AND PERFORM OTHER SUCH RESEARCH FUNCTIONS AS REQUIRED. MAJOR EQUIPMENT INCLUDES: PULSE AND STEADY STATE NUCLEAR REACTOR, 300,000-CURIE COBALT-60 IRRADIATOR, ELECTRON MICROWAVE LINEAR ACCELERATOR, X-RAY MACHINES WITH ASSOCIATED EXPOSURE ROOM COMPLEXES  
SUPPORT SERVICES INCLUDE: MEASUREMENT OF RADIATION FIELDS, PROVISION AND CARE OF LABORATORY ANIMALS, EQUIPMENT DESIGN AND FABRICATION ASSISTANCE, REAL-TIME DATA ACQUISITION SYSTEM, TELEVISION AND FILM DOCUMENTATION OF EXPERIMENTS, PERSONNEL AND ENVIRONMENTAL MONITORING, EDITORIAL ASSISTANCE IN REPORT PREPARATION, AND A LARGE TECHNICAL LIBRARY

APPENDIX I

DISESTABLISHMENT, ESTABLISHMENT OR CHANGES IN ORGANIZATION  
OR NAME \*

DEPARTMENT OF THE ARMY

AS OF OR PRIOR TO 1 JULY 1976

|  |  |
|--|--|
| AIRCRAFT DEVELOPMENT<br>TEST ACTIVITY<br>Fort Rucker, AL | ESTABLISHED  |
| ARMY MEDICAL R&D COMMAND<br>Washington, D. C.            | ** DELETED -- Does not meet<br>report requirement              |
| ARMY RESEARCH OFFICE<br>Durham, NC                       | ** DELETED -- Does not meet<br>report requirement              |
| AVIATION BOARD<br>Fort Rucker, AL                        | ESTABLISHED  |
| AVIATION SYSTEMS TEST ACTIVITY<br>Edwards AF Base, CA    | AVIATION ENGINEERING FLIGHT<br>ACTIVITY<br>Edwards AF Base, CA |
| AVIATION TEST BOARD<br>Fort Rucker, AL                   | DISESTABLISHED   |
| JEFFERSON PROVING GROUND<br>Madison, IN                  | DISESTABLISHED   |
| MOBILITY EQUIPMENT R&D CENTER<br>Fort Belvoir, VA        | MOBILITY EQUIPMENT R&D COMMAND<br>Fort Belvoir, VA             |
| NATICK DEVELOPMENT CENTER<br>Natick, Mass                | NATICK R&D COMMAND<br>Natick, Mass                             |

DEPARTMENT OF THE NAVY

|   |   |
|---|---|
| NAVY MEDICAL NEUROPSYCHIATRIC<br>RESEARCH UNIT<br>San Diego, CA | NAVAL HEALTH RESEARCH CENTER<br>San Diego, CA |
|---|---|

APPENDIX I

DISESTABLISHMENT, ESTABLISHMENT OR CHANGES IN ORGANIZATION  
OR NAME (continued) \*

DEPARTMENT OF THE AIR FORCE

AS OF OR PRIOR TO 1 JULY 1976

|  |  |
|--|--|
| AIR FORCE GEOPHYSICS LABORATORY<br>Hanscomb AF Base, MA    | ESTABLISHED                                    |
| AIR FORCE SATELLITE CONTROL<br>FACILITY<br>Los Angeles, CA | **DELETED. Does not meet<br>report requirement |
| CAMBRIDGE RESEARCH LABORATORY<br>Cambridge, MA             | DISESTABLISHED                                 |

\* Changes since publication of Department of Defense In-House RDT&E Activities, 30 October 1975.  
\*\* See paragraph one, Appendix II.

## APPENDIX II

### Definitions

1. IN-HOUSE RDT&E ACTIVITIES--Those organizational entities engaged in performing work in any or all of the categories of research, development, test and evaluation. The RDT&E effort, however, should represent a minimum of 25 percent of the total effort of each entity reporting in order to be considered as an RDT&E activity.

2. PROFESSIONALS--Full-time government scientific and engineering personnel actively engaged in RDT&E activities. In the case of civilians this will include all those holding positions that fall into the following categories under the Civil Service Occupational Groups and Series of Classes, General Schedule:

|     |     |     |      |      |
|-----|-----|-----|------|------|
| 150 | 440 | 665 | 871  | 1330 |
| 180 | 454 | 668 | 880  | 1340 |
| 190 | 457 | 680 | 881  | 1350 |
| 193 | 460 | 690 | 890  | 1360 |
| 401 | 470 | 701 | 892  | 1370 |
| 403 | 471 | 801 | 893  | 1372 |
| 405 | 482 | 806 | 894  | 1382 |
| 410 | 486 | 808 | 896  | 1384 |
| 413 | 487 | 810 | 1301 | 1386 |
| 414 | 601 | 819 | 1306 | 1510 |
| 430 | 602 | 830 | 1310 | 1515 |
| 434 | 635 | 840 | 1313 | 1520 |
| 435 | 644 | 850 | 1315 | 1529 |
| 436 | 660 | 855 | 1320 | 1530 |
| 437 | 662 | 861 | 1321 | 1540 |

Military professionals, both officer and enlisted, actively engaged in RDT&E activities should be identified with the functions described in the above-referenced civilian job series. Generally, these jobs are referenced in Department of Defense Occupational Conversion Tables DoD 1312.1-0, DoD 1312.1-E under DoD groups 5 and 6 of DoD 1312.1-0, and various other groups of DoD 1312.1-E, published under the provisions of DoD Instruction 1312.1. Lawyers, accountants, chaplains, social workers and educators should be excluded.

3. TECHNICIANS--Generally nonprofessionals working on an RDT&E project or program in support of a professional. In the case of civilians, it will include, but will not necessarily be limited to, those holding positions that fall into the following categories of the Civil Service Occupational Groups and Series of Classes, General Schedule:

|     |     |     |      |
|-----|-----|-----|------|
| 181 | 645 | 683 | 1341 |
| 404 | 646 | 698 | 1371 |
| 421 | 647 | 699 | 1374 |
| 455 | 649 | 802 | 1410 |
| 458 | 650 | 817 | 1412 |
| 462 | 661 | 818 | 1521 |
| 621 | 667 | 856 | 1531 |
| 622 | 669 | 895 | 1541 |
| 625 | 881 | 311 |      |
| 636 | 682 | 316 |      |

Discretion will have to be exercised by each RDT&E activity in determining the number of military technicians. Generally, they should follow the guidelines established in defining civilian technicians and can be identified in DoD 1312.1-E.

4. Real Property Cost--Each reporting activity will be responsible for determining and reporting the cost of real property. This cost should be established in accordance with the guidelines and definitions in DoD Instruction 4165.14. This should also include the cost of installed equipment.

5. Equipment Cost--Each reporting activity will be responsible for determining and reporting the cost of personal property. This cost should be established in accordance with the guidelines and definitions in DoD Instruction 4165.14. This should also include the cost of installed equipment.

6. Space--The data to be furnished should include only walled and roofed building space. It should not include such things as parking lots, open storage areas, lean-tos, etc. The source of data may be the annual report submitted in compliance with the requirements of DoD Instruction 4165.14.

7. In-House Obligations--Obligations reported under this category are for activities performed, or to be performed, by the organizational entity. Their work is carried on directly by their own personnel. Particular care should be taken to include under in-house performance the cost of supplies and equipment essentially of an off-the-shelf nature that are procured for use in in-house research and development, plus such things as travel, publications, and other types of services in support of in-house functions and M.P.A. Excluded from the in-house total are expenses for planning and administering programs by DoD personnel of contracts and grants for out-of-house work and M.C.A.

8. Out-of-House Obligations--Obligations reported under this category are for activities performed, or to be performed, by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions, and private individuals. Included as out-of-house work are all expenses paid the out-of-house performers, as well as the expenses incurred in planning and administering these programs by personnel of the organizational entity. This would also include travel and other supporting services.

9. Annual Operating Cost--This should generally reflect the overhead cost of operating the laboratory or facility. It should include such things as costs of utilities, rents, janitorial services, guard and fire protection, support services such as supply personnel, printing, maintenance of buildings and grounds, etc. It should not include the salaries of direct labor personnel such as scientists, engineers, technicians, draftsmen, machinists, etc.

### APPENDIX III

#### Selected Standard Abbreviations and Acronyms

|  |   |
|--|---|
| AAM -- air-to-air missile                        | GCA -- ground-controlled approach                     |
| AAW -- antiair warfare                           | HF -- high-frequency                                  |
| ADPE -- automatic data-processing equipment      | IFF -- identification, friend or foe                  |
| AEC -- Atomic Energy Commission                  | IR -- infrared  |
| AEDC -- Arnold Engineering Development Center    | MPT -- military potential test                        |
| AFMDC -- Air Force Missile Development Center    | NAF -- Naval Air Facility                             |
| AFSC -- Air Force Systems Command                | NASA -- National Aeronautics and Space Administration |
| AFWET -- Air Force weapons effectiveness testing | NASC -- Naval Air Systems Command                     |
| AMC -- Army Materiel Command                     | NAVORD -- Naval Ordnance Systems Command              |
| APG -- Aberdeen Proving Ground                   | NAVSHIP -- Naval Ship Systems Command                 |
| ARPA -- Advanced Research Projects Agency        | NEMP -- nuclear electromagnetic propagation           |
| ASW -- antisubmarine warfare                     | PI -- product improvement                             |
| AUS -- Army United States                        | POL -- petroleum oil, lubricants                      |
| BIS -- Board of Inspection and Survey            | QA -- quality assurance                               |
| BW -- biological warfare                         | QMDO -- qualitative materiel development objective    |
| CBR -- chemical, biological, radiological        | QMR -- qualitative materiel requirement               |
| CE -- Chief of Engineers, Army                   | RDT&E -- Research, development, test and evaluation   |
| CG -- commanding general                         | RF -- radio frequency                                 |
| CNO -- Chief of Naval Operations                 | RV -- reentry vehicle                                 |
| COMMEL -- communications electronics             | SATS -- short airfield tactical support               |
| DA -- Department of the Army                     | SDR -- small development requirement                  |
| DASA -- Defense Atomic Support Agency            | SI -- Ship installation                               |
| DoD -- Department of Defense                     | SP -- self-propelled                                  |
| DZ -- drop zone                                  | ST -- service test                                    |
| ECM -- electronic countermeasures                | T&E -- test and evaluation                            |
| ECOM -- Electronics Command, Army                | TOTO -- Tongue-of-the Ocean                           |
| ED -- engineering development                    | UDT -- underwater demolition team                     |
| EDT -- engineering development and test          | ULMS -- Undersea Long-Range Missile System            |
| EEG -- electroencephalogram                      | USATECOM -- U. S. Army Test and Evaluation Command    |
| EKG -- electrocardiogram                         | UTTAS -- utility tactical transport aircraft system   |
| ELINT -- electronic intelligence                 | USW -- undersea warfare                               |
| EMP -- electromagnetic propagation               | UV -- ultraviolet                                     |
| EMW -- electromagnetic warfare                   | V/STOL -- vertical/short takeoff and landing          |
| EODC -- Explosive Ordnance Disposal Center       |   |
| ET -- engineering test                           |   |
| EW -- electronic warfare                         |   |
| FA -- field artillery                            |   |
| FBM -- fleet ballistic missile                   |   |

## APPENDIX IV

### KEY WORD OR ACTIVITY

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| AVIATION ENGINEERING FLIGHT ACTIVITY . . . . .           | 8           |
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| AVIONICS LABORATORY . . . . .                            | 10          |
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| FLIGHT TEST CENTER . . . . .                             | 95          |
| <b><u>AIRCRAFT ENGINES:</u></b>                          |             |
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| AIR PROPULSION TEST CENTER . . . . .                     | 55          |
| ARNOLD ENGINEERING DEVELOPMENT CENTER . . . . .          | 90          |
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